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THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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Shooting interior of storm-battered "Mayflower" for MGM's "Plymouth Adventure."

THIS MONTH

- Miniatures In Motion Picture Production
- Now--Magnetic Sound For All Cine Films!

. . . plus 6 other important articles

SEPTEMBER 1952

There's a DuPont Motion Picture Film

for every phase of motion picture work

FILM	TYPE	DESCRIPTION
NEGATIVE TAKING STOCKS		
"Superior" 1	904 B 35mm	A panchromatic film recommended for general exterior and process background work whenever the light is ample.
"Superior" 2	926 B 35mm	An all purpose film for both exterior and interior production work. It combines fine grain, speed and wide latitude.
"Superior" 3	927 B 35mm	A highly sensitive negative for both interior and exterior use under limited illumination.
"Superior" 2	901 A 16mm	An all purpose negative for interior and exterior use. May be processed as a negative or by reversal.
Panchromatic	914 A 16mm	A fine grain film of wide latitude for interior and exterior work. May be processed as a negative. Produces excellent results when reversal processed.
Rapid Reversal	930 A 16mm	A medium speed negative designed especially for rapid reversal processing. Widely used in television newsreel and sports photography.
High Speed Rapid Reversal	931 A 16mm	A high speed negative designed especially for rapid reversal processing. Used in television newsreel and sports photography under restricted lighting conditions. Emulsion is super-hardened to permit processing at elevated temperatures.
DUPLICATING FILMS		
Fine Grain Duplicating Negative	908 B 35mm 908 A 16mm 908 C 32mm	Exceptionally fine grain high resolution film designed specifically for duplicating work. Fully panchromatic.
Fine Grain Master Positive	828 B 35mm 828 A 16mm 828 C 32mm	A fine grain film for duplicate positives which may be exposed at release positive printer light levels and processed in normal release positive developers at normal developing times.
SOUND RECORDING FILMS		
Sound Recording	801 B 35mm	A high speed Variable Area or Variable Density recording film.
Fine Grain Sound Recording (VD)	826 B 35mm	A fine grain Variable Density sound recording film with an exceptionally high signal to noise ratio and freedom from 96 cycle effects.
Fine Grain VA Sound Recording	831 B 35mm	A fine grain film for variable area sound recording using white light. Responds well to high gamma development.
Fine Grain Sound Recording (VD)	836 B 35mm	A low contrast fine grain sound negative for variable density recording designed for development in picture negative developers.
Fine Grain Sound Recording (VD)	837 B 35mm	Same emulsion as Type 836 with non-halation base to increase sharpness of sound images.
Sound Recording (NH)	802 A 16mm	A high speed Variable Area or Variable Density recording film for use in 16mm recorders. The non-halation base enhances image sharpness.
RELEASE POSITIVE FILMS		
Release Positive High Speed	803 B 35mm	A high speed, normal grain film where release print speed is required. Excellent for making superimposed title prints.
Fine Grain Release Positive	825 B 35mm 825 A 16mm 825 C 32mm	For general release work and dubbing prints which require the optimum in picture and sound quality. Yields blue-black images.
Fine Grain News Positive	829 B 35mm	For fine grain news release prints.
SPECIAL PURPOSE FILMS		
Title Stock	805 B 35mm	A high speed film for title photography. Clarity of base makes it ideal for superimposed titles.
Fine Grain Low Contrast Positive	824 B 35mm 824 A 16mm	A fine grain film for photographing either negative or positive images from television monitor tubes. The low contrast of this film makes it especially suited for prints which are to be telecast. May be processed in picture negative or release positive baths depending on contrast level desired.
Fine Grain Background Projection	827 B 35mm	An extremely fine grain film of high resolution for background projection purposes. Yields a blue-black image of exceptional gradation and sharpness.

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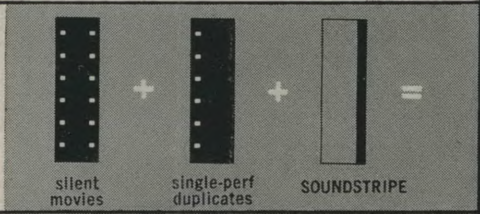
SOUNDSTRIPE

For making low-cost sound movies!

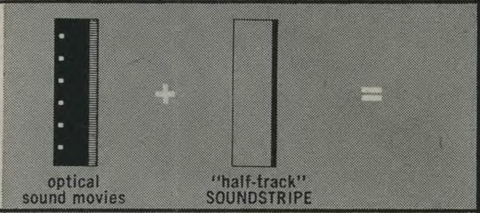
SOUNDSTRIPE is a magnetic iron oxide striping which Bell & Howell applies to any 16mm single-perforated processed film—color or black-and-white, duplicate or original print. Recordings made on SOUNDSTRIPE can be played back immediately . . . can be changed instantly and as often as desired.

Bell & Howell gives you the complete magnetic sound picture:

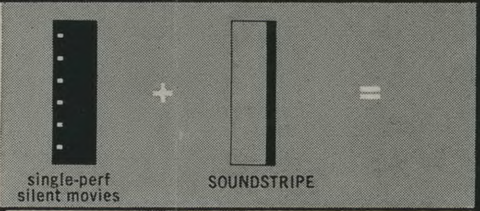
For any 16mm silent movies on double-perforated film (including 16mm magazine-load film) taken at any speed, have duplicate prints made on single-perforated film. Have your dealer forward prints to Bell & Howell for SOUNDSTRIPE.

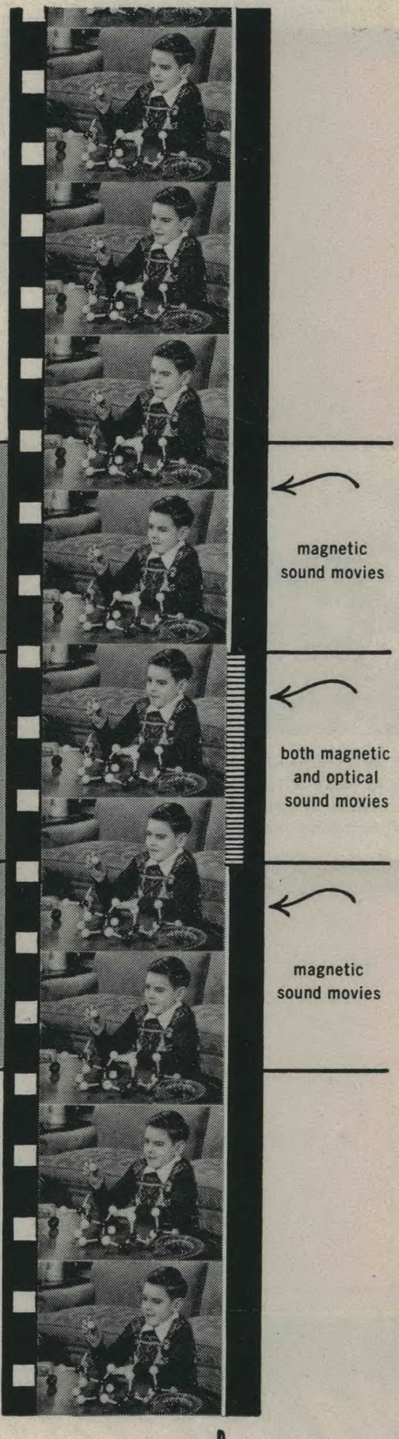


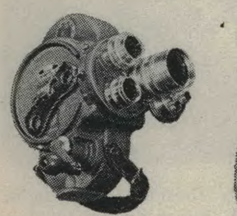
For optical sound movies, magnetic sound can be added by applying SOUNDSTRIPE over *half* of the original track, a feature of the Bell & Howell process that allows you to enjoy both optical and magnetic sound on the same film.



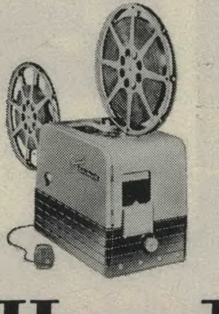
For your own sound movies, use a Bell & Howell "70" camera or any 16mm camera that takes single-perforated film, shoot at any speed, have the film processed, then forward it through your dealer to Bell & Howell.







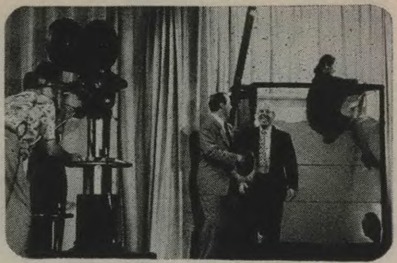
16mm Bell & Howell 70-DL movie camera



Filmosound 202 records and projects at either 16 or 24 frames per second.

To order SOUNDSTRIPE: Take your 16mm single-perforated film *after processing* to your Bell & Howell dealer for fast, efficient service. Price for SOUNDSTRIPE is 3½c per foot. Minimum charge $10.50 for 300 feet or less in a single length. SOUNDSTRIPE is now available on the West Coast through the Bell & Howell plant in Hollywood, Calif. This is an extension of the SOUNDSTRIPE service at Bell & Howell, Chicago 45. Your dealer will be glad to give you any desired additional information on SOUNDSTRIPE.

Bell & Howell makes it fun to make sound movies!



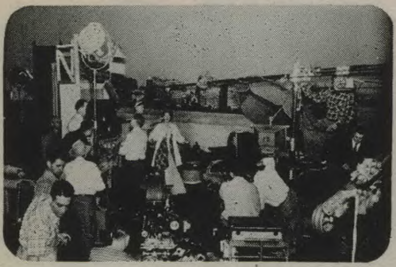
Ralph Edwards shoots his "Truth or Consequences" show with four Mitchell 35mm cameras. The program is filmed "live" in New York for later release on TV networks.

Over 30 years ago Mitchell made history with the introduction of the motion picture camera that was to set new photographic standards for a growing industry. *Today,* Mitchell 16mm and 35mm equipment is being used in every field of motion picture photography.

In the field of Television, Mitchell cameras continue to pioneer new techniques and standards. TV films shot with Mitchell cameras reach your home viewing audience *clearer, sharper* and *steadier*—to bring superior quality reproduction to the television screens in millions of living rooms. You can be sure that your television film, whether shot "live" or as an elaborate studio production... whether with one camera or ten, will be a *better* investment because it is filmed with a Mitchell Camera.

Today, as in the history-making years past, Mitchell 16mm and 35mm equipment continues to deliver the world's finest films. You can count on Mitchell—*the 30-year pioneer.*

Westinghouse Electric Corp.'s "Summer Storm" is filmed by Ronald Reed Prod., Inc. This is one of over 130 films for Westinghouse Electric Corp. by this producer—all filmed with 16mm and 35mm Mitchell Cameras.



Snader Telescriptions uses three BNC Mitchells to make a Toni Arden film, one of 400 3½ minute programs shot last year by this organization with Mitchell cameras.

one name...

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and the rest is history!

Procter & Gamble's "Fireside Theatre" series is filmed by Frank Wisbar Productions, Inc. with a Mitchell BNC.

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* 85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

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PUBLICATION OF AMERICAN SOCIETY OF CINEMATOGRAPHERS

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ON THE COVER

ONE OF THE MOST INTERESTING sequences in MGM's "Plymouth Adventure" pictures action below decks of the "Mayflower" during a violent storm at sea, when hurricane winds batter the ship, nearly capsizes it. Here the camera focuses on set of lower deck interior erected on studio sound stage. Deck was made to rise and fall with the storm by means of hydraulic equipment. Directing the photography is William Daniels, A.S.C.—*Photo by Jim Manatt.*

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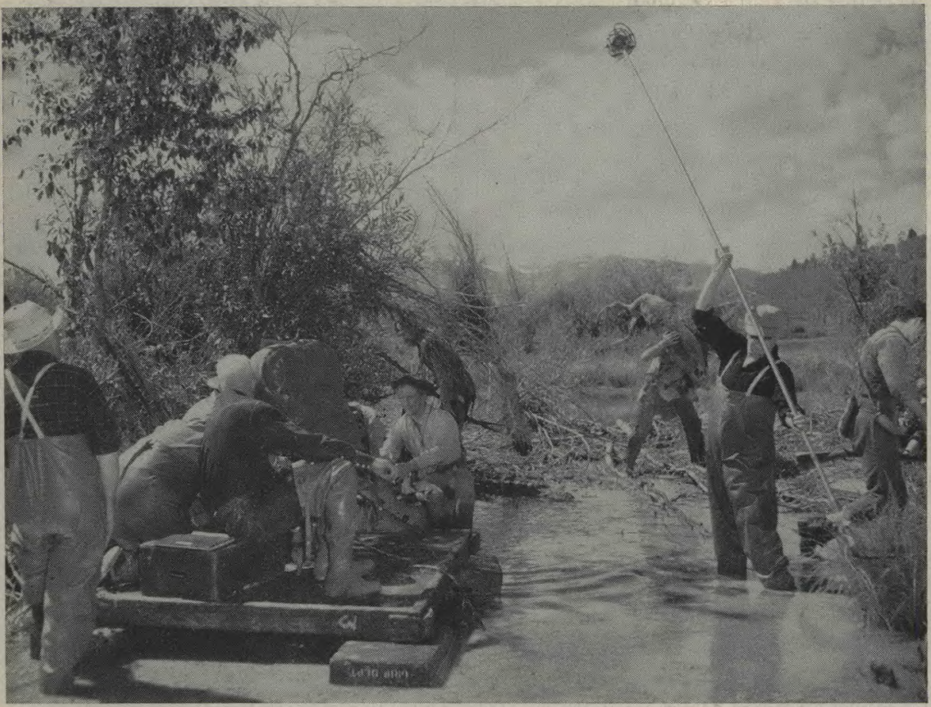


SWAMP STUFF—Cinematographer Russell Harlan, A.S.C., was in deep water most of the time when shooting exteriors for Winchester Productions' "The Big Sky" in Jackson Hole, Wyoming. Here camera's mounted on parallel at waterlevel and focused on actor Kirk Douglas. Harlan is crouched behind camera, lining up the shot, while producer Howard Hawks, on parallel, wearing waders, looks on.

A.S.C.'S ANNUAL DINNER AND DANCE honoring the wives of the Society's members will be held at the A.S.C. Clubhouse in Hollywood the evening of September 13th. Motif for the affair this year is a surprise party in which each lady attending will receive a surprise gift.

Presentation of gifts will follow a buffet supper served on the clubhouse lawn. A dance orchestra featuring several specialty numbers will provide entertainment. A number of film stars currently appearing before various A.S.C. members' cameras are scheduled to be on hand as honored guests.

•

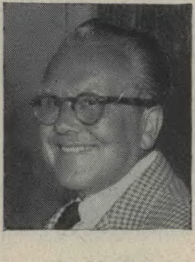
GEORGE BARNES, A.S.C., embarked for Europe August 11th, where he is to direct the photography of "Little Boy Lost," to be produced by Paramount pictures.

•

A CAMERA CREW from 20th Century-Fox flew to Argentina last month to photograph in Technicolor the funeral rites of Eva Peron, wife of the Argentina president. 20th-Fox was selected by the Argentina government as a result of that studio's location jaunt to the Argentine for "Way Of A Gaucho" early this year.

Making the trip were Eddie Cronjager, A.S.C., Roger Shearman, Hugh Crawford and Technicolor technician Nelson Cordes.

•



Charles Rosher

CHARLES ROSHER, A.S.C., no sooner reached his island paradise rancho in Jamaica for a vacation when he received a cable advising he had been named to receive a fellowship award of the Photographic Society of America, and urging him to be on hand to receive it when the convention convened in New York City on August 12. Rosher was one of 24 P.S.A. members to be so honored this year. Fellowships are presented by the Society for outstanding achievement in photography accompanied by extensive public service.

RUDOLPH MATE, A.S.C., former cinematographer turned director, has been signed by Universal-International Pictures to a two-year non-exclusive contract calling for him to direct two pictures annually.

•

EDWIN DuPAR, A.S.C., whose article on the new WarnerColor system appears elsewhere in this issue, is writing a book based on his experiences in photographing the first three films for Warner Brothers in the new color process.

•

Humberto Correl

HUMBERTO A. CORREL was a Hollywood visitor from Brazil last month. Correl, executive with Multi Films, Sao Paulo, purchased more than a quarter of a million dollars worth of cameras, lighting equipment, and accessories for his company's studio to facilitate its plan for increased production in 1953.

Correl also supervised the processing by Houston's color film lab of his company's initial Ansco Color production, "The Gaucho," to be released in both South and North America.

•

VIRGIL MILLER, A.S.C., hospitalized briefly last month for a minor operation, is presently gathering material for a book which he has tentatively titled "Splinters From A Hollywood Tripod." Book will feature short stories and anecdotes about old time Hollywood cameramen and their experiences and thrills in shooting movies. Miller invites brother cinematographers to submit interesting story material, for which due credit will be given in the published volume.

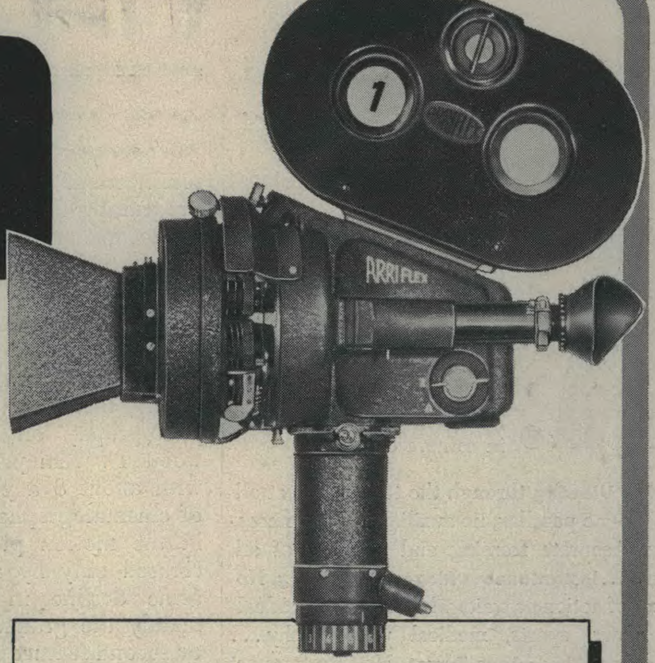
•

VISITING HOLLYWOOD last month was Mathieu A. Bonifanti, head of Companhia Industrial Cinematografica, of Rio de Janeiro, Brazil. Bonifanti's organization has film producing studios and laboratories in both Rio and Sao Paulo. Hollywood visit was for purpose of

(Continued on Page 414)

☆ ARRIFLEX 35

MODEL II



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Among the reasons given for the preference of the Arriflex are: the fact that the special reflex focusing mechanism permits viewing and focusing through the taking lens even while the camera is operating; the ease with which either 200 or 400 foot film magazines can be attached; the convenient portability of the camera; its ready use either hand-held or on a tripod; the fact that there is no need to stop to wind a motor; and above all, the fine workmanship and low price.

Our customers are most gratified with the Arriflex 35, and we highly recommend it to all cinematographers."

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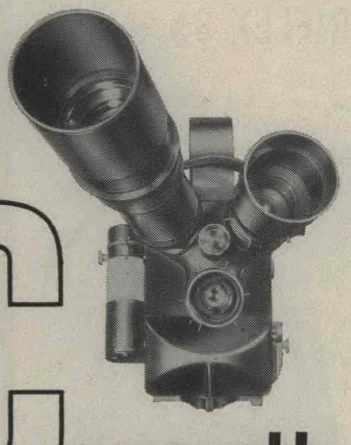

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CLOSEUPS

Notes and editorial comment

by the editor . . . .

The television boom—and particularly the recent trend toward putting major TV programs on film — poses the question: "What has all this done for the cinematographer?"

In Hollywood, TV film production has given work—steady work—to many cameramen, assistants and operators who formerly worked only occasionally. Today, there are about 30 directors of photography on contract with Hollywood TV film producers as contrasted with about 8 a year ago. The number of cinematographers regularly employed in the motion picture studios has decreased only by about 8%, indicating some decline in studio production—mainly the gradual elimination of "B" or second-feature films. Most of the men photographing TV films today formerly were major studio cameramen.

The present TV film production picture seems to bear out the predictions generally made by astute industry heads a year ago that television would eventually benefit rather than harm the future of the cinematographer.

★

Following publication of an article in last month's issue which described MGM's new jeep camera crane, it was called to our attention that previously Universal-International Studios had built and put into use a similar vehicle. While our article in no way implied that MGM's Jeep camera crane was the first of its kind, and because we wish always to give credit where credit is due for technical accomplishments in the motion picture industry, we take this opportunity to cite U-I's engineers for their earlier development of a Jeep camera crane.

While we have not seen U-I's equipment, it is reported that MGM's possesses many new and unusual features not found in other crane equipment. Engineers of both studios, incidentally, are leaders in the development of new and improved equipment for photographing motion pictures.

★

Two of the focal points of world interest in documentary and experimental films are at Edinburgh, Scotland and Venice, Italy where annual international film festivals take place. Each year these foreign festivals grow in stature, and presentation at each festival has become a coveted distinction among makers of non-theatrical films the world over. Many of the films entered are shown publicly for the first time and some receive their world premiere at Edinburgh or at Venice.

In order to expedite and coordinate the submission of American non-governmental, non-theatrical films for exhibition to both festivals this year and each year hereafter, the Film Council of America, 600 Davis Street, Evanston, Illinois, has been asked by the directors of both festivals to undertake the handling (evaluating and transmission) of such films originating in the United States.

All inquiries concerning either festival should be directed to Mr. Charles Bushong, of the FCA, at the above address.

★

The photographer using color film has just as much artistic freedom as a painter with his brush, Ralph M. Evans, a nationally-known color expert, told the annual convention of the Photographic Society of America in New York City last month.

Denying the charge made by artists that color photography is merely a mechanical device for recording a natural scene, Evans said, "The only thing mechanical about a photograph lies in the fact that 'pressing the button' makes permanent the image which the photographer has already created."

Evans, who is superintendent of Eastman Kodak Company's color control department, spoke on the subject, "Creative Directions in Color Photography." His lecture, illustrated by more than 100 Kodachrome and Ektachrome slides, was sponsored by the PSA's Technical Division.

Evans told his audience that the subject matter of photography is infinite. It is limited only by the imagination and the capacity for feeling of the photographer, he said.

"What all good photographers do is use the medium creatively so that you will see a particular phase of a typical scene according to your own experience."

★

Eastman Kodak Company has just announced a new infra-red raw film stock which literally permits motion pictures to be photographed in the dark with

(Continued on Page 378)

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Finer color motion pictures are made possible with the wonderful new Negative-Positive Process. Truer color, finer grain, superb definition, greater brilliance and depth are achieved, plus higher production flexibility. Houston-Fearless has developed processing equipment to achieve the maximum results from this remarkable new film.

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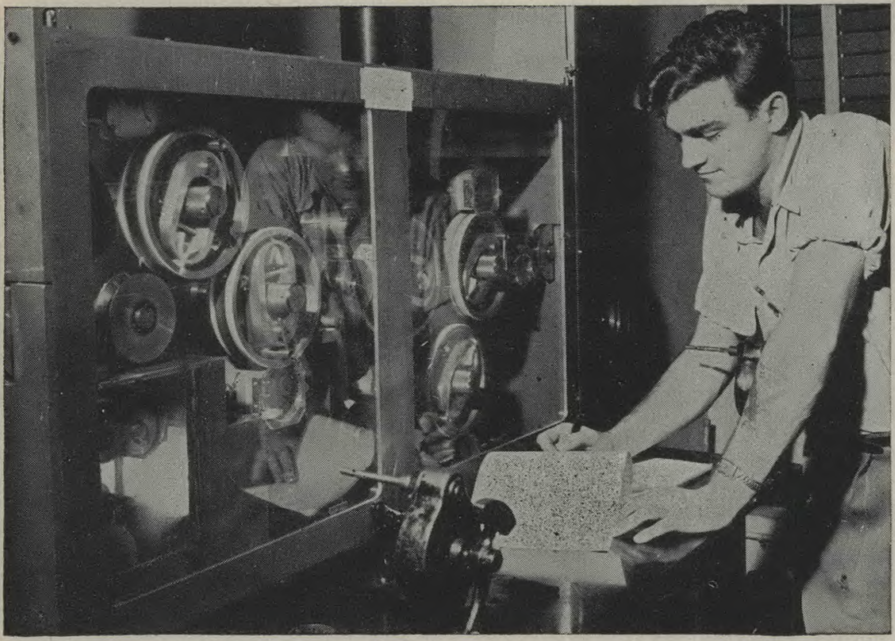

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Precision Film Laboratories — a division of J. A. Maurer, Inc., has 14 years of specialization in the 16mm field, consistently meets the latest demands for higher quality and speed.

New Electronic Printer: For the reproduction of magnetic sound to 16mm either independently or in combination with picture prints.

New Control Strip Printers operate without notching original—produce fades and dissolves from A & B rolls —incorporate filter changes between scenes.

PRECISION
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JU 2-3970

CLOSEUPS

(Continued from Page 376)

infra-red lamps for illumination, or in semi-darkness without additional illumination.

Tradenamed Kodak Spectroscopic I-N film, the new stock is described as having a total red speed greater than any other emulsion now on the market.

In tests conducted with the film at University of Rochester, according to Kodak, successful motion pictures were made of audience reactions when house lights in a theatre were dimmed to 1/70th of normal room illumination.

The new film can be used in any standard 16mm or 35mm motion picture camera, and is available in both rolls and 16mm magazines.

★

For the purpose of discovering and encouraging new creative talent for the Motion Picture Industry, an annual Screen Producers Guild Intercollegiate Film Award for the best motion picture conceived and created in the colleges and universities of the United States, has been established by the Screen Producers Guild in Hollywood.

Sixty-nine universities and colleges in this country, which have cinema and drama departments, have been invited to submit the student-produced motion picture which the individual school itself considers to be the best effort of its cinema department.

The submitted films will be judged in Hollywood by a special viewing committee composed of SPG members. The committee will then nominate the pictures to be screened at the Academy Award theatre for final Guild voting for 1st, 2nd and 3rd place. Later the three top films will be shown to an invited industry audience.

The university or college which submits the picture winning first place will be invited to send to Hollywood the one student it feels is most importantly responsible for the film. This student will be brought to the film capital as a guest of the Guild for one week, during which time he will have meetings with various film creators on all major lots. At conclusion of his visit, the student will receive the annual SPG Award medallion on behalf of his school and co-workers. The latter will each receive a scroll.

★

A simple 3-dimensional system for motion pictures has been developed by L. E. Thomas, Newcastle, Ind., cameraman-projectionist, who has announced he will publicly demonstrate system late in November. System does not require use of pola-spectacles for viewing.

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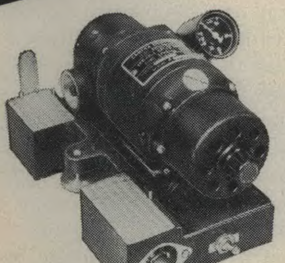

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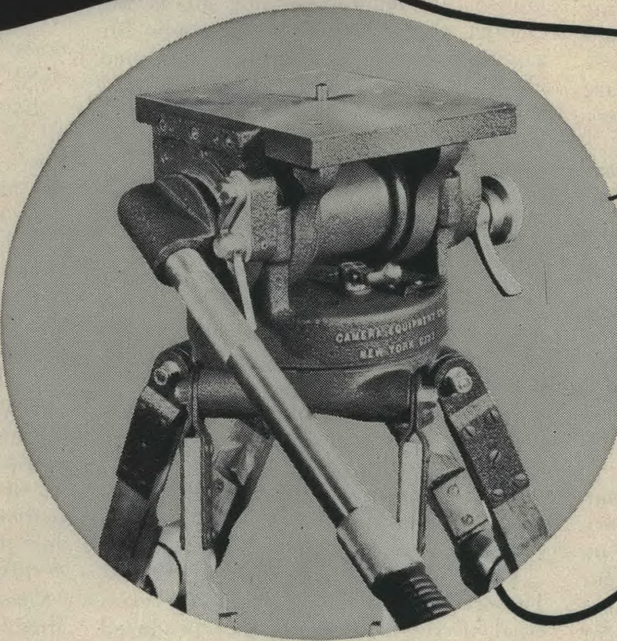

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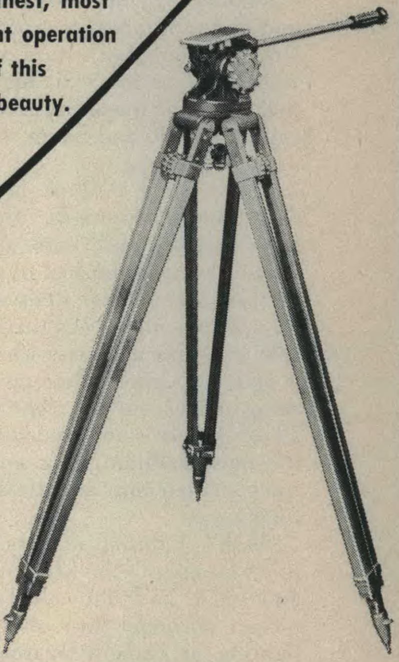

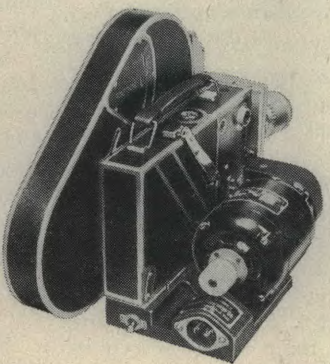

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Cinematography REVIEWS

Of Pictures Previewed in Hollywood Last Month

EVERYTHING I HAVE IS YOURS—*Photographed in Technicolor by William V. Skall, A.S.C., for Metro-Goldwyn-Mayer.*

Here's a picture you'll be hearing about long after it has run its customary course in the theatres, because it's definitely a nominee for an Academy Award next year in several categories—particularly the photography.

Skall, whose assignments lately have been on second units of large productions such as "Quo Vadis," is all by himself on this one and his artistic lighting and skillful camera handling is immediately evident, especially in the song and dance numbers featuring Marge and Gower Champion, stars of the story. He'd want us to credit his camera crew and grips for the assist given him on the intricate dolly and boom shots, so here's a plug for them, too.

"Everything I Have Is Yours" concerns the Champions, song-and-dance team married two years, and starred on Broadway in a musical of their own for the first time. Marge finds she's pregnant on opening night, has to vacate the star role to Monica Lewis, who later makes a play for Gower Champion. But everything comes out all right in the end—all of which is interspersed by some of the most brilliant song and dance routines written into an MGM picture in a long time.

Skall's lighting of sets representing the Champion's lavish home is elegant and while he's not called upon in this picture to come through with any arty lighting or camera treatments, his is a top grade job throughout the production and an excellent study for those interested in color photography.

George Wells produced the picture; Robert Z. Leonard was the director.

TOP SECRET — *Photographed in black-and-white by Ted McCord, A.S.C., for Warner Brothers.*

"Top Secret" is a dramatic international mystery story with its beginning in the gallant fight of the French underground, during World War II.

As the story unfolds, it uncovers one of the most clever of international spies. Ted McCord's photography aided by skillful lighting establishes and maintains the sinister mood of the story. Later, he's called upon to match the lighting, contrast, and camera angles of captured German footage which is intercut with his.

Rare motion picture made by the German Signal Corps during the war depicting the first Messerschmidt jet plane in action and of the initial V-1 pilotless bombs that fell on London late in the conflict were obtained by the studio for a sequence of "Top Secret." It fitted correctly into the plot of the picture and shows the launching of the V-1 bombs from the French coast and flights of the first military jet plane.

In shooting the French channel sequences at Malibu beach in Southern California, McCord had to add riflemen to his camera crew in order to keep out of camera range a herd of seals who insisted on swimming past each time the camera was started for a scene of the beach.

An interesting photographic accomplishment is the close range photography of a small radio being shot up by rifle fire. A tommy gun shooting real bullets was used to get the realistic closeup shots.

Cornel Wilde, Steve Cochran, Phyllis Thaxter and Karl Malden are the principal players. Henry Blanke produced and Lewis Seiler directed.

THE WORLD IN HIS ARMS—*Photographed in Technicolor by Russell Metty, A.S.C., for Universal-International Pictures. Special photography by Stanley Horsley, A.S.C.*

In our review of U.I.'s "Yankee Buccaneer," last month, we made the point that Russell Metty had come a long way with his color photography since first he began shooting Technicolor. "The World In His Arms," further substantiates this. As with the former production, Metty has applied deft camera and lighting treatment to every scene in this picture, bringing them to the screen in superlative pictorial canvases.

But it is the special photography of the schooner race by Stanley Horsley that steals the show in the latter part of the picture. Foregoing the customary background projection process, U.I sent their cameras out to sea to photograph the huge sailing craft in action. The follow shots are superb; the camera shooting from deck of another boat traveling alongside the two schooners keeps the framing steady in every shot. A new type camera mount, details of which are closely guarded by the studio, made the unique shots possible.

Ann Blyth and Gregory Peck star in this Rex Beach favorite which has to do with two rival schooner captains who poach seal skins from the Pribalof Islands for a living and bid for the favor of Russian Countess (Blyth).

Aaron Rosenberg produced for Universal-International; Raoul Walsh directed. And a fine job he did, too.

PLYMOUTH ADVENTURE—*Photographed in Technicolor by William Daniels, A.S.C., for Metro-Goldwyn-Mayer. Miniature photography by Max Fabian, A.S.C., and Harold Lipstein, A.S.C.*

Except for a brief opening sequence, all of the action of "Plymouth Adventure" takes place aboard the Mayflower, the famed vessel that brought the Pilgrim Fathers and their families to America in 1620. This is the film story of that voyage and of the drama interwoven with the privation and suffering endured by the pilgrims and the Mayflower's nondescript crew.

Fully one-fourth of the footage is miniatures, or played against backgrounds shot in miniature, and it is this phase of the production that outweighs all the rest, technically. The degree of realism achieved by MGM's miniature and process department is of Academy Award caliber. Especially are the storm scenes in which the Mayflower is tossed about by giant waves the best ever produced anywhere. (More about this phase of the production appears elsewhere in this issue. EDITOR.)

The rest of the production is expertly photographed by William Daniels, who returned to the MGM lot after a long absence to photograph the picture.

Spencer Tracy, Gene Tierney, Van Johnson and Leo Genn head the excellent cast. Dore Schary produced and Clarence Brown directed this MGM production which is among that studio's best for 1952.

THE QUIET MAN — *Photographed in Technicolor by Winton C. Hoch, A.S.C., for Argosy Productions.*

Here is a production that proves that, with a skilled cameraman, adverse lighting is no serious problem in Technicolor photography. "The Quiet Man" was filmed in Ireland, where clear, sunny days are a rarity and overcast skies the rule. Under these conditions, Winton Hoch has captured scenes of the Irish countryside that beggar description. Moreover, the refreshing vistas inspired Hoch to achieve magnificent pictorial compositions and these together with the excellent story and fine cast make this one of the "must" pictures of the year.

John Wayne, a retired American prizefighter returns to Ireland, land of his birth to buy the old ancestral home

(Continued on Page 414)

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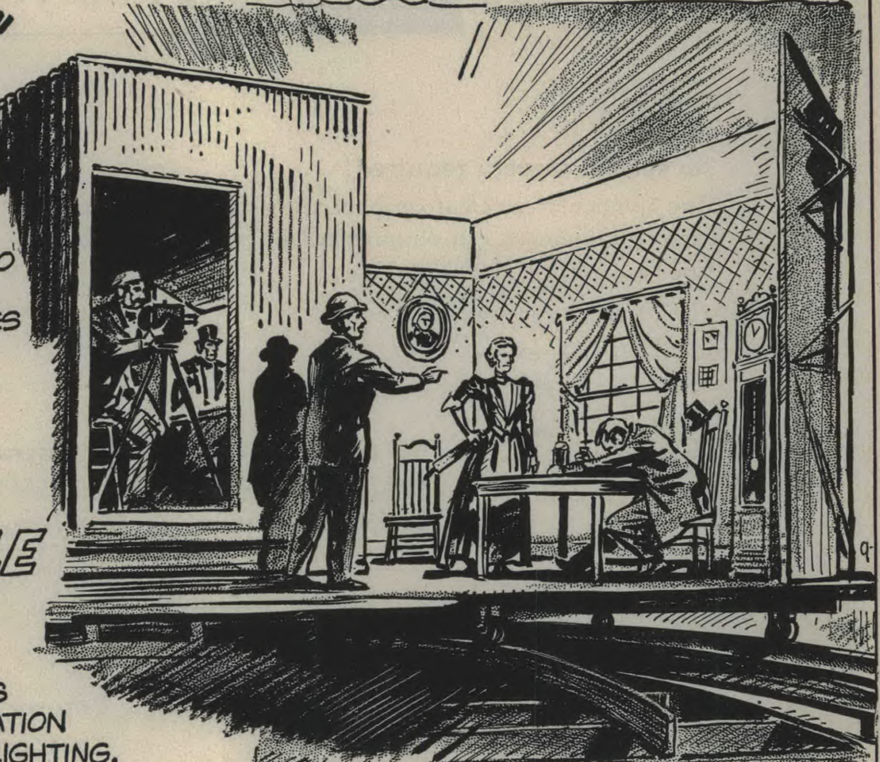

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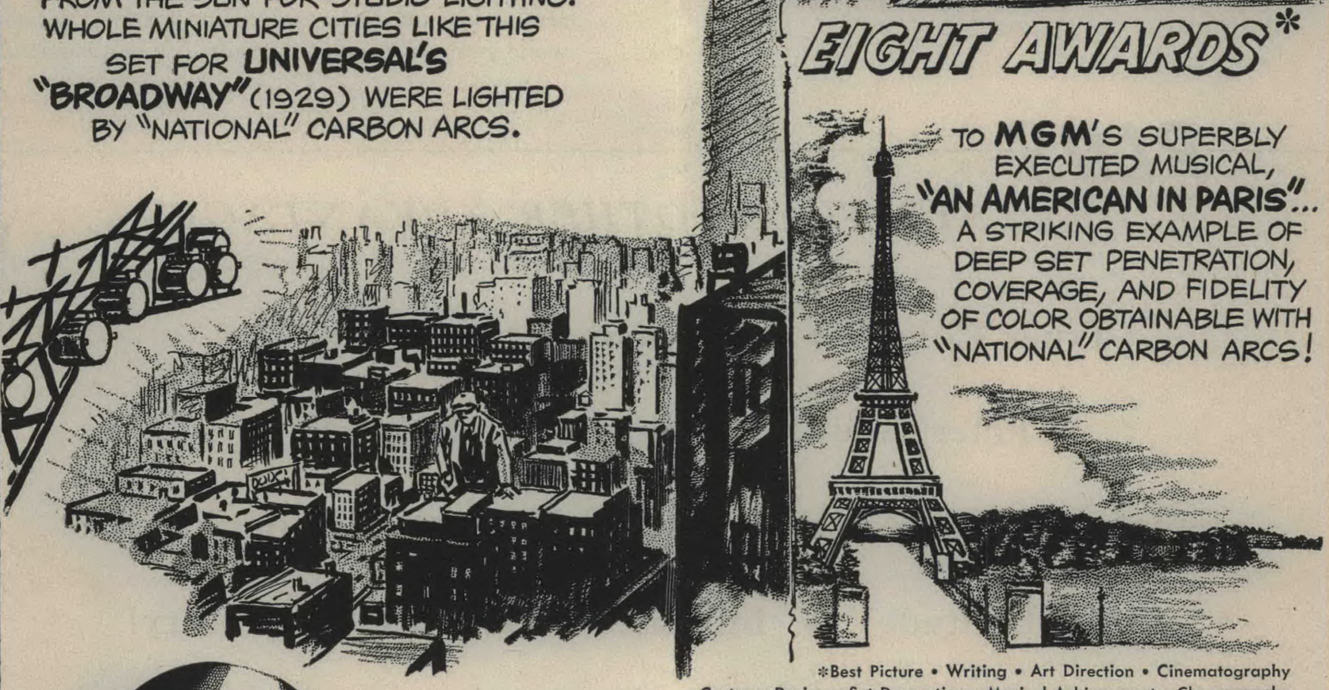

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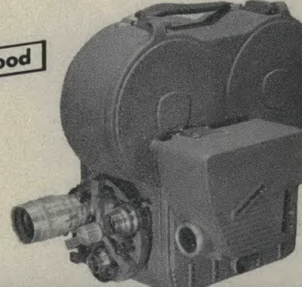

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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

WarnerColor--Newest of Color Film Process

Lab developed and field tested, new medium proves highly successful.

By EDWIN B. DuPAR, A.S.C.

EDITOR'S NOTE: *WarnerColor is a negative-positive process, utilizing the new Eastman color films in which the natural colors of the scene photographed appear in their complementaries on the developed negative.*

Prints can be made by two methods: either by contact on positive color stock or by making three color-separations on fine-grain panchromatic stock with proper filters, then printing from the separations in technique similar to lithography.

The speed factor of the new WarnerColor is 16, as against 12 for Kodachrome, making the former half a stop faster.

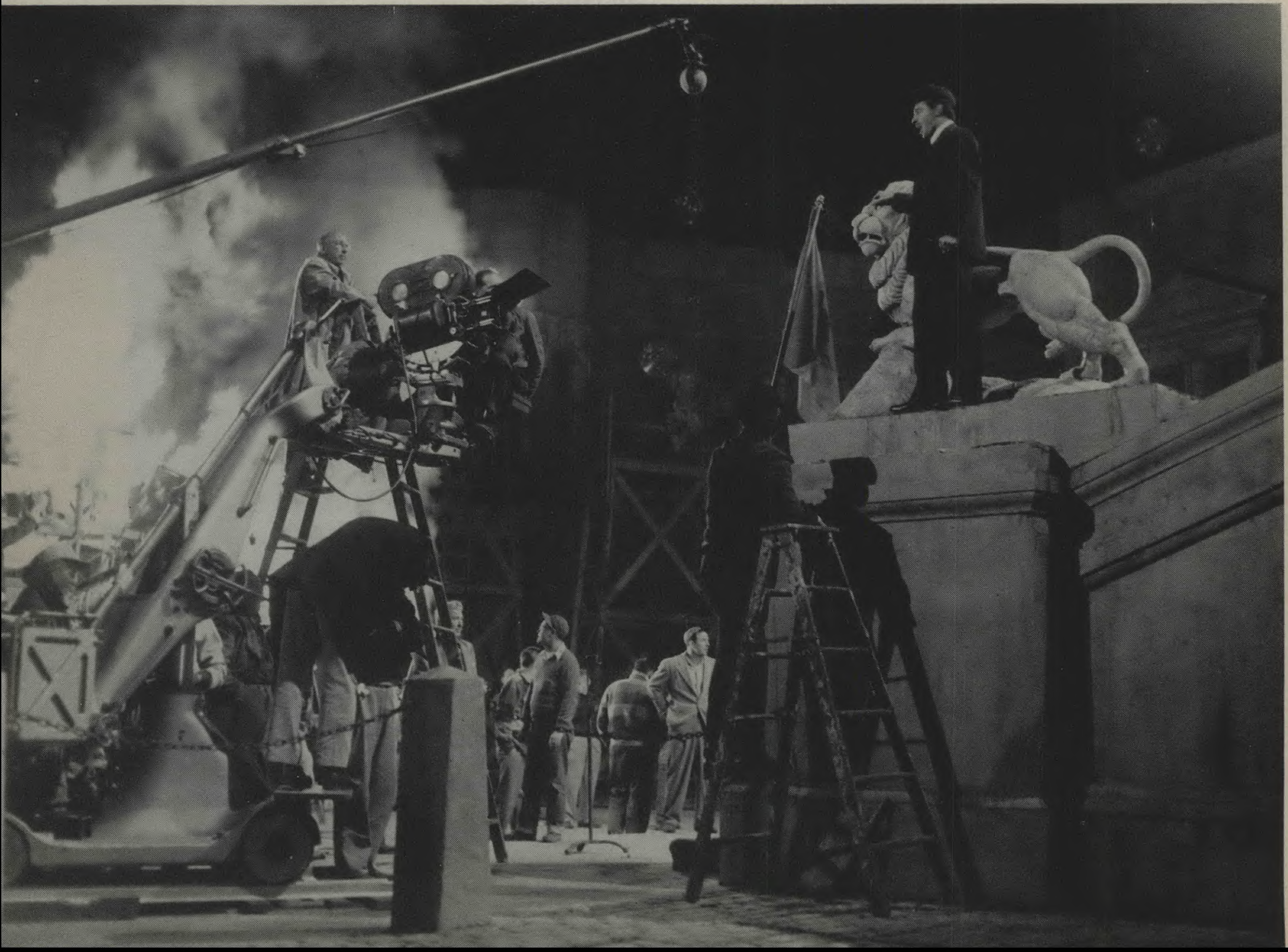
The development of WarnerColor has been pursued in two directions—in photography and in the film laboratory. In the former, Warner Brothers' top directors of photography have lent their talents and knowledge of the photographic art. On the laboratory side, Fred Gage, A.S.C., Warner's lab head, mothered the process to its present state of perfection. The process is exclusively Warner Brothers'. No plans for making it available to other studios have been announced.

WARNERCOLOR has become one of the most talked-about color film processes in the motion picture industry. At this writing, four pictures have been completed at Warner Brothers studio in the new WarnerColor, and we now can look back and evaluate the progress that has been made with this new and remarkable process.

I directed the photography on three of the initial four productions, and I sincerely believe that WarnerColor is the finest color film we have in the industry. It is certainly the most satisfactory that I have used in thirty years as a motion picture cameraman.

The colors are natural and true. Definition is extremely good, and extraordinary in shadows. Photography can be carried on in any weather. Extreme highlights do not bother the eye because glare is absent, even in intense sunlight or in a snow background. The film is unusually sensitive; it can be handled in the laboratory as easily as black and white film. No special equipment is necessary and rushes may be viewed the next day.

The tremendous progress the studio has made with the



RANGE OF LIGHTING in which WarnerColor may successfully be exposed is illustrated in scenes above and below from "Miracle of Our Lady of Fatima." New color process affords great depth of field.

OUTDOORS, WarnerColor registers colors with utmost fidelity, at same time recording distant backgrounds sharply for unusual pictorial effects, as in this pastoral scene from the production.

EVEN WITH darkening skies and a light rain, the above scene was photographed in WarnerColor with unusual success. Colors, altho subdued by the reduced illumination, reproduced faithfully.

IT IS IN low key lighting that WarnerColor shows its tremendous possibilities. In this scene, cameraman DuPar went the limit in reducing his lighting, achieving a powerful pictorial result.

process is exemplified in "The Miracle of Our Lady Of Fatima," the third WarnerColor picture now in general release. When I was assigned to direct the photography of "Miracle" I discussed the matter of makeup with director John Brahm and producer Bryan Foy, and it was determined that little or no makeup would be used on the players. Most of the cast represented peasants and children, and none wore makeup. Even when filming the crowd scenes, we asked the women to first remove their street makeup — lipstick and rouge. This produced improved photographic results, because the true colors of the players' features were brought to the screen.

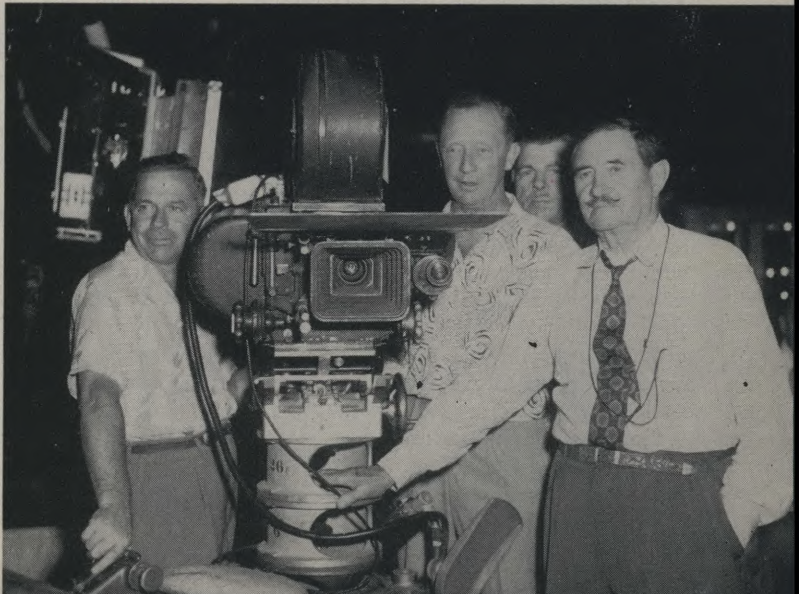
A companion development in the WarnerColor process has been a new makeup for use with the film. Gordon Bau, head of Warner's makeup department now has a light cosmetic

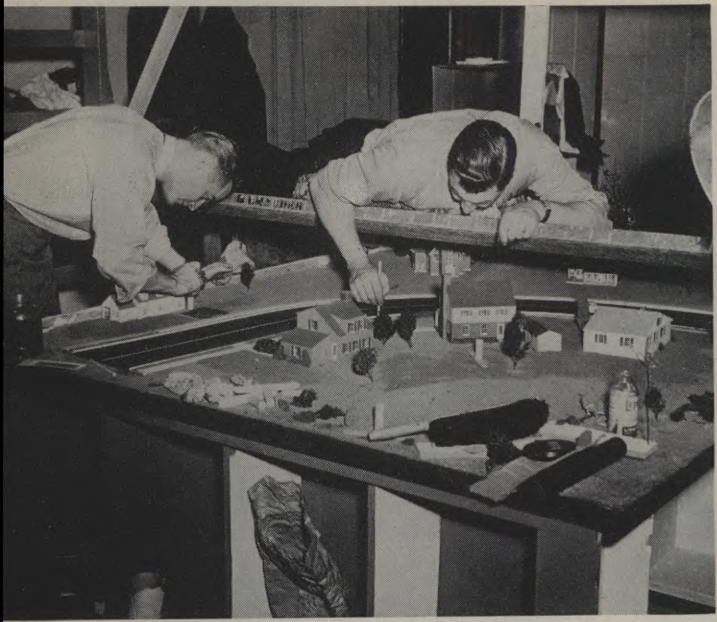
(Continued on Page 402)

◀

DRAMATIC SCENE at left for "Fatima" was filmed in WarnerColor utilizing illumination from the colored flame in background. With WarnerColor, faces remain little changed in tone regardless of the illumination level.

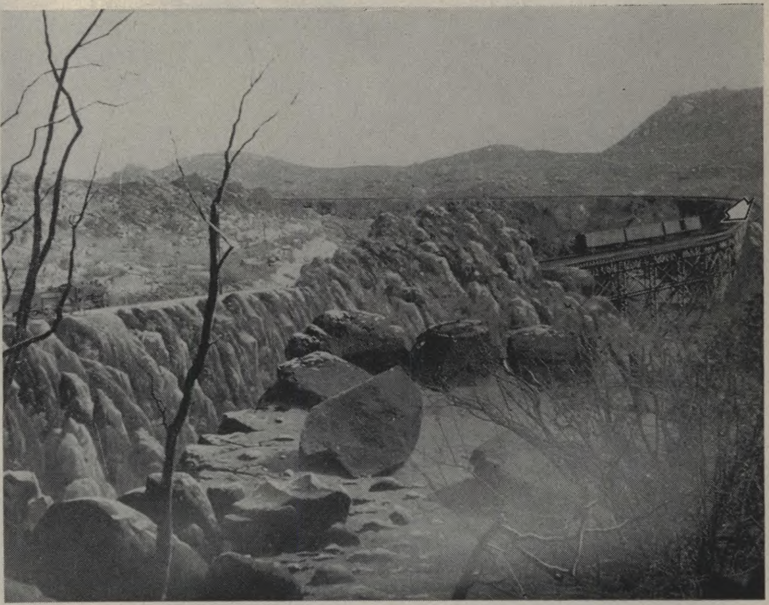
EDWIN DuPAR, A.S.C. (right) and his WarnerColor camera crew responsible for the photography of Warner Brothers' "The Miracle Of Our Lady Of Fatima." Others (from l to r) are: Lou Jennings, operator; Vic Johnson, head gaffer; and Warren Yaple, head grip.





THE USE of miniatures is growing in every field of motion picture production. Here motion picture technicians of Aetna Life Insurance Co. prepare a miniature set for a traffic safety film. In non-theatrical films of this kind, the same attention to detail, scale, etc., is given miniature sets as in Hollywood studio productions.

MINIATURE SET typical of those built for feature films a decade ago is this scale rail line, which was erected off the lot in a mountain locale, and utilized part of the tracks of a standard gauge railway. Arrow points to illusory junction of miniature and standard tracks which, from camera position, appear as one. Train wreck was staged on trestle. Foreground is entirely miniature construction.



Miniatures In Motion Picture Production

Miniatures provide backgrounds or action scenes that are impossible or impractical to obtain in any other way. Their use no longer is confined to feature film production; makers of TV and industrial films also have found miniatures the answer to many photographic problems.

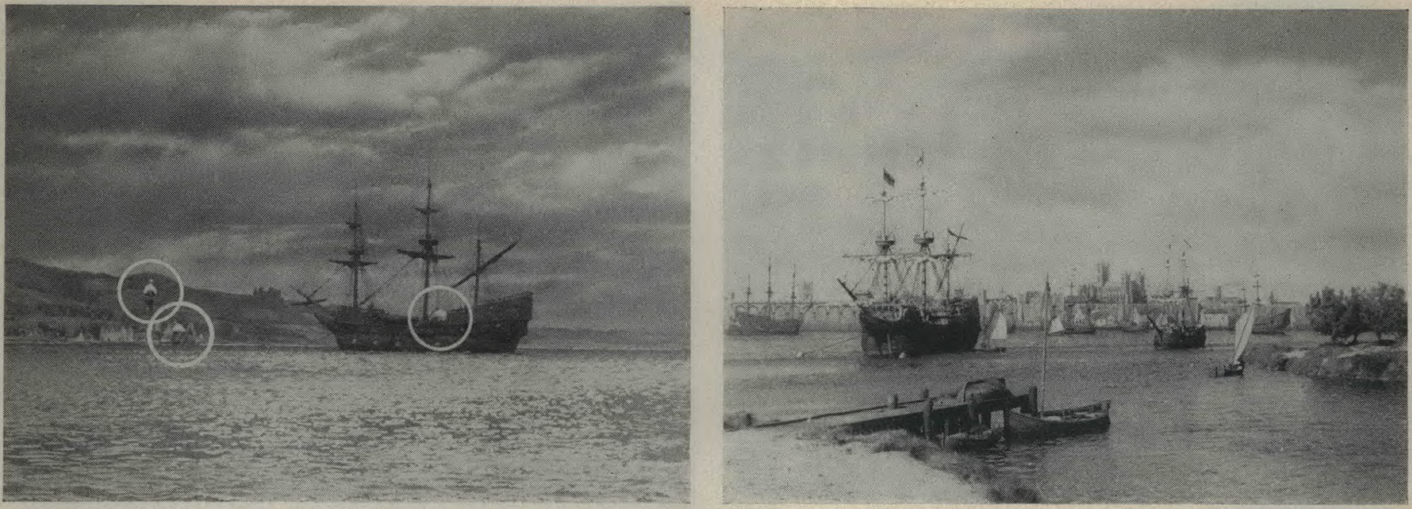
By ARTHUR ROWAN

THE USE OF MINIATURES in motion picture production has a two-fold purpose: to accomplish certain action which would be impossible or impractical to produce and photograph full size, and to provide backgrounds or settings which otherwise would be too elaborate or costly to reproduce or photograph normally. Usually, the reason miniatures are resorted to is because there is no other way to shoot the action. In other words, you can't deliberately crash a full scale ship or plane, make a tornado perform just for the camera, nor duplicate an atomic bomb explosion—all of which is routine work for a studio miniature department.

The shooting of certain action in miniature has come to be common practice with producers of motion pictures in all fields. Today almost every major film studio has at least one miniature project going all the time, because a great deal more time is required in planning construction, then photographing the miniature set than in filming the rest of the picture.

One of the most noteworthy miniature projects was that associated with the recently completed MGM production, "Plymouth Adventure." The miniature photography in this picture comprises 25% of the entire picture footage—some of the lengthiest on record for a single feature motion picture production.

A great deal of the action in "Plymouth Adventure" concerns the crossing of the Pilgrims to America in the Mayflower and in her sister ship, the Speedwell. In the crossing, the boats encounter a violent storm at sea, during which the high drama of the story takes place. Obviously, staging a storm-at-sea with full scale ships was out of the question. Not only was it impractical from the standpoint of cost, but too risky for technical personnel and cast. As a result, the Mayflower and Speedwell were built in miniature, launched in the studio's "miniature tank" on lot three, and photographed with utmost realism in calms



EXAMPLE OF TODAY'S best miniature work is to be seen in Metro-Goldwyn-Mayer's current Technicolor production "Plymouth Adventure," 25% of which employed miniature sets and props. Above are two views of miniature sets during construction stage. Circled are three workmen on set, which shows relative size. Sky is painted backing and the "sea" is but 36 inches deep. Both sets were erected on same site.

and storms—the latter manufactured by studio technicians using tons of water and wind machines.

The building of miniatures and miniature sets is today a highly specialized art. It is usually carried on by a separate and entirely self-contained department, the head of which works in close contact with the studio's supervising art director, and with the special photography or process department whose personnel photograph the completed miniature sets. At Metro-Goldwyn-Mayer studios, Buddy Gillespie heads up the Special Effects department. Head of the Miniature department is Don Jahraus; and Carroll Shepphird handles process. Together, these three men plan and direct or supervise the execution of all miniature work at MGM. No less important is Max Fabian, A.S.C., who directs the photography of all miniatures and who frequently is assisted by Harold Lipstein, A.S.C., in this specializzed work.

The success of miniatures in motion pictures depends upon a happy combination of photographic, artistic, and mechanical effects, and since all of these factors enter into the design of every miniature, the miniature technician must have extensive first-hand understanding of all three. He must be sufficiently an artist to make his miniatures harmonize with the full-scale settings of the picture, sufficiently a photographer to be able to design his miniatures for the camera, and enough of an engineer to be able to design efficient, workable miniature properties.

Each individual miniature setting is a separate problem, according to Buddy Gillespie. "There can be no blanket rules laid down for their construction," he said. "Even the size and scale will vary from miniature to miniature. One cannot merely say, 'all miniatures should be made to such and such a scale.' Instead size and scale must be determined for each individual miniature project, to afford the exact effect desired with the most workable size."

Cost is by no means relative to size. As a rule, large size miniatures are less costly to construct, and they give the cameraman greater latitude in which to work. Therefore, the designer, in determining the scale and size to be followed, must consider the optical possibilities of the equipment used, particularly lens-angles and depth of focus. Depth of focus is a highly important factor in short-range miniature work.

The miniatures of the Mayflower and the Speedwell were built in two different scales. The Mayflower was constructed on a scale of 3 inches to one foot, whereas the Speedwell was made just half the size—on a scale of 1½ inches to one foot. The boats were so constructed that slight changes could be made in the rigging and in some detail of the Speedwell to give it the appearance of the Mayflower for doubling in the storm scenes. By using the smaller ship for

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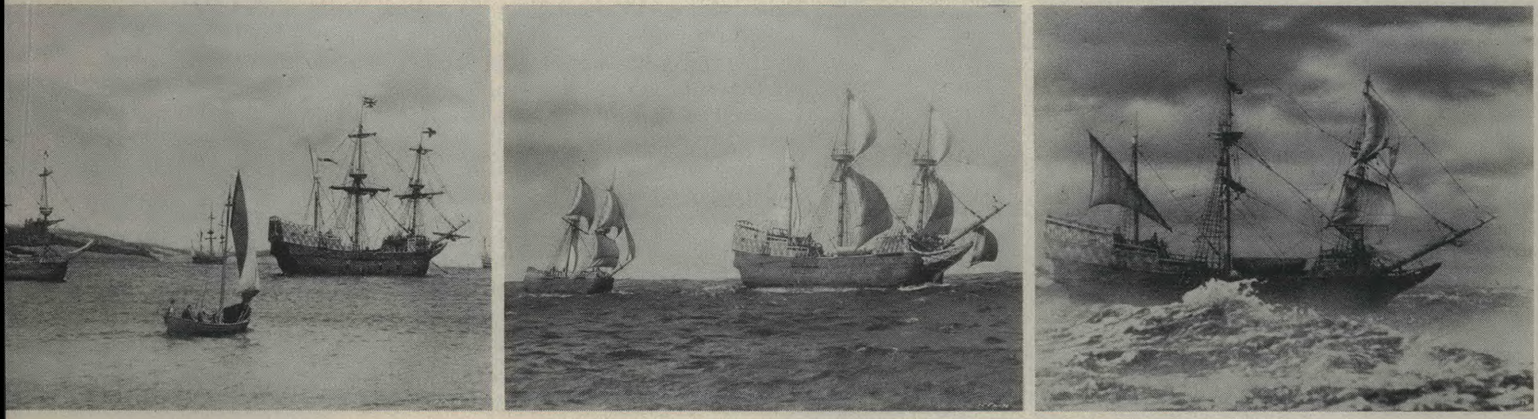
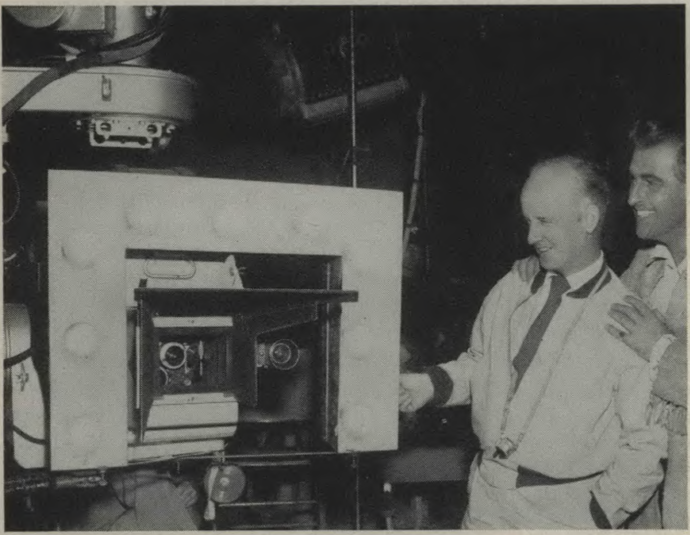


THREE MINIATURE scenes which were all staged on the same set for MGM's "Plymouth Adventure." Note the realism obtained in the sea as the scene changes from the tranquil harbor (left) to mid ocean (center) and finally to the big storm at sea (right). The achievement was the result of careful calculation of camera speed and rate of movement of miniatures, and development of tricky apparatus to create realistic turbulence of water. Scenes depicting climax of storm, incidentally, are of Academy Award calibre, were photographed by Max Fabian, A.S.C.

Camera Fill Lights

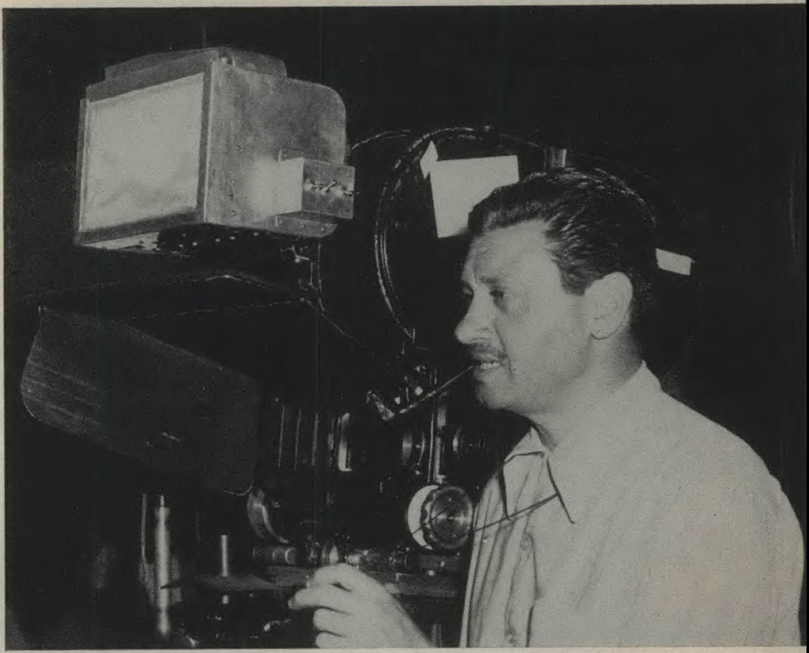
Small lighting unit mounted on camera provides uniform illumination on subject when filmed in closeup or dolly shot.

By FREDERICK FOSTER



AN ELABORATE fill light unit designed especially for color photography. Robert Surtees, A.S.C., standing left of actor Stewart Granger, used the light in filming closeups for Metro-Goldwyn-Mayer's "The Wild North."

A VERY PRACTICAL use of camera fill lights is demonstrated here. Two units, mounted on brackets extending from either side of camera, supply adequate fill light on players as they descend stair, with crane-mounted camera following the action.



MAURY GERTZSMAN, A.S.C., Universal-International cameraman, uses improved camera fill light which has switch controls for each lamp, side exhaust for lamp heat, and spun glass diffuser. Unit may be mounted above or below camera lens.

IN MOTION PICTURE photography, one of the most controversial lighting units is the camera fill light. This is a small incandescent unit mounted on the camera, either above or below the lens, for the purpose of supplying illumination of moderate intensity on players when making closeups or dolly shots.

Some cinematographers never use the lamp; others would never shoot a closeup without it. This is not to say that some comeramen are ignorant of the lamp's possibilities, but simply that it does not fit in with their particular style of lighting.

Use of the lamp originated about the time the camera dolly and the tracking shot came into general use. The moving camera limited the use of floor lamps immediately before it. It was logical as a result to hang a lighting fixture on the camera to supply fill light as it moved in on a closeup. To decrease the lamp's intensity as the camera moved toward the player, it was gradually shaded through use of a dimmer switch.

If you ask the average director of photography the name of this lighting unit (all set lighting units have a popular monicker) few will be able to answer other than a "filler light." Many of them have forgotten two popular terms applied to it years ago—"lupe" and "coed." Carl Freund, A.S.C., is credited with naming the lamp a "lupe" after using it in photographing the late Lupe Velez. Once she saw the improvement in her closeups use of the lamp wrought, she demanded it be used on all her closeups thereafter. It thus became common practice for Freund to call for a "lupe" whenever the camera moved in for a closeup of Miss Velez.

The same type lamp also acqquired another name—"coed" —at Metro-Goldwyn-Mayer studios. Who tacked this label on it, no one seems to remember; but the lamp is a popular item of lighting equipment with most all cameramen at that studio.

Over the years, the camera fill light has assumed a variety of shapes and sizes. Today most fillers are about the same size and design, and are usually made by each studio's mechanical department. Constructed of sheet metal, the lamp is box-like in shape — about 7 by 12 by 6 inches — and is

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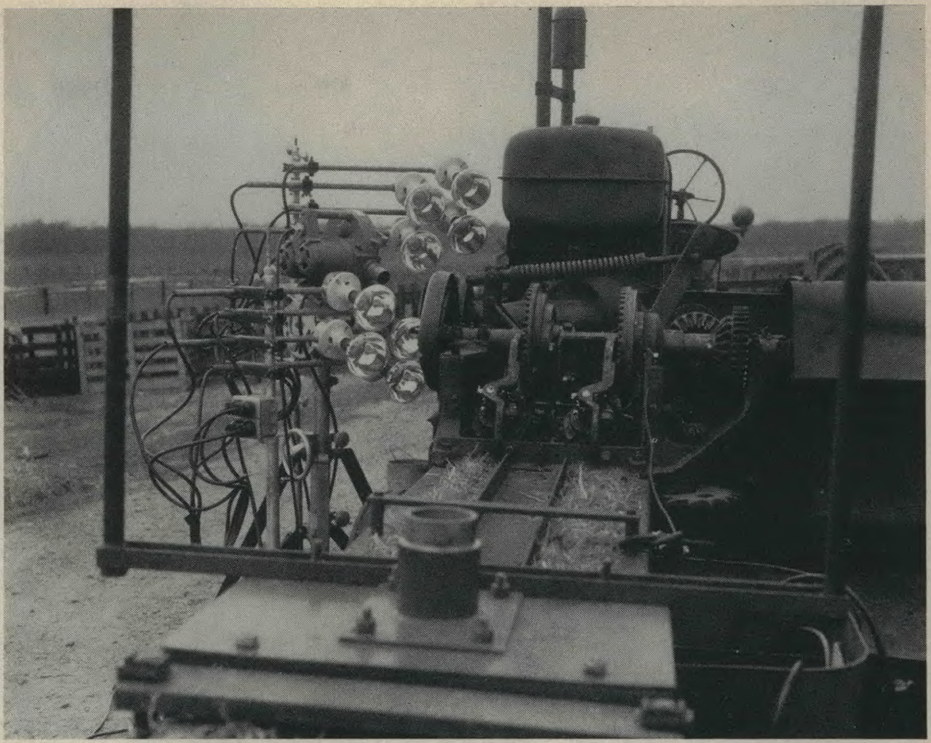
CLUSTERS of 750R lamps are used above to augment sunlight in high-speed photography of a harvester mechanism. The 750R is superior to all other types of reflector photo lamps for this type of motion picture photography.—Photo courtesy Wollensak Optical Company.

Lighting For High-Speed Motion Pictures

Some aspects of lighting subjects indoors and out for high-speed cinematography.

By JOHN H. WADDELL

Wollensak Optical Co., Rochester, N. Y.

IN HIGH-SPEED CINEMATOGRAPHY, it has been found that by *concentrating* the light source on the subject, it is possible to take high-speed pictures at rates which at one time were considered impossible. In discussing the subject of high-speed photographic lighting, it is assumed that photography is to be done at speeds of 14,000 to 16,000 pictures per second, using a lens stop of approximately f/8. The development of suitable lighting units for this purpose has always been an intriguing one, and we are always striving to get better and better lighting for use in high-speed photography of subjects in both large and small areas.

For outdoor photography, the Master Designer, of course, has provided us with a potent light source in the sun. I have seen high-speed motion pictures made out-of-doors in shadow at rates up to 14,000 pictures per second, and fully-lighted pictures at rates up to 7,000 pps. We have taken high-speed motion pictures of shells in flight at 5,000 per second on cloudy days and gotten excellent detail. In the New Mexican desert and in Arizona and California wastelands, high-speed motion pictures in color are obtained at rates up to 1,000 pps in daylight. A peculiar thing about daylight in our Southwest desert areas, summer or winter and between nine a.m. and three p.m., is that the light value on a clear sunny day varies between 9,500 and 10,500 foot candles.

Therefore, for subjects which are reasonably large, it is obvious that, for the present, sunlight is the answer whenever one asks: "How do we light an area 7 ft. by 7 ft. in order to photograph at the rate of 14,000 pictures per second?" There have been instances where powerful army searchlights have been used to augment lighting and to emphasize specific points of interest in making high-speed pictures out-of-doors, but usually this is where it is desired to primarily cover a small area alone, and where exceptional detail is required.

Therefore, with the film latitude that is available today, one does not have to worry particularly about exposures out-of-doors with high-speed motion picture cameras. Exposure, of course, is more critical with color and reversal-type films than with negative emulsions, which permit one to control more easily the relationship between density produced in the developed image and exposure. The reversal processes as used for color films and reversal black-and-white are oftentimes quite tricky.

As for the use of incandescent light for high-speed motion pictures, the suggestion often has been made that mercury arcs, particularly the high-intensity type, be used. However, it has been found that mercury arcs, or any arc light operating on alternating current, is very sensitive to the pulsating current, with the result that the light volume will respond accordingly, going up and down in intensity (in the case of sixty-cycle current) one hundred and twenty times per second. The mercury arc operating on alternating current is never completely extinguished, but the alternately lightening and darkening of the picture which results is a very disturbing factor. There have been no satisfactory DC circuits developed thus far for use with lamps of this type.

The familiar photoflood lamp is the lighting unit most generally recommended by users of high-speed motion picture cameras. This lamp literally throws light all over the subject and subject area. The relative brightness of the photoflood lamp as compared with other types of incandescent lamps now on the market, may be as low as one-thirtieth the intensity when such lamps are at an equal distance from the subject. The incandescent lamps, such as photofloods and reflector-spots, when burned above normal voltage, do not show any effect of the pulsating 60-cycle AC current, even though there is apparently a slight interval of "cooling" that takes place as result of the pulsing current. These lamps also burn at a color temperature suitable for color photography. Any deviation in the color temperature—which invariably is slightly above the established figure—

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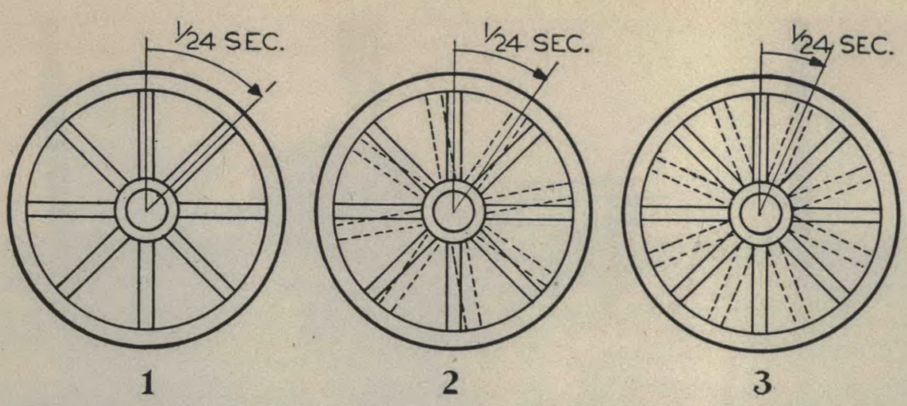

DIAGRAM showing stroboscopic effects of wheels revolving before motion picture camera operating at 24 fps.: Fig. 1, spokes stationary. Fig. 2, spokes moving backwards. Fig. 3, spokes doubled in number.

Wheels That Still Turn Backward

Avoiding the trouble is simply a matter of mathematics or use of a shutter-reflex type of camera, says British technician.

By R. HOWARD CRICKS, F.B.K.S., F.R.P.S.

IN ALL TYPES of films, from features to to newsreels, one still sees the elementary fault of wheels standing still or going backwards. Several particularly flagrant examples occurred in "The Card" (British production), where the effect was aggravated by the fact of Alec Guinness's quaint vehicle appearing in full side view. Even "The Greatest Show on Earth," with all its wonderful special effects, was not free from the fault, which in most war films is displayed also on the tracks of tanks.

When an aeroplane propeller is swung it passes through the phases of appearing stationary, and then of going alternately backwards and forwards, until it settles down to a blur.

In actuality films, the fault is generally unavoidable; but in all staged productions its avoidance is merely a matter of a little forethought, plus either some elementary mathematics or a shutter-reflex type of camera.

The fundamental cause of these stroboscopic effects is quite simple. If in the 1/24th second from one exposure to the next a wheel turns the exact distance from one spoke to the next (Fig. 1), then the spokes will appear stationary. If in that time it turns slightly less than the space of one spoke (Fig. 2), the wheel will appear to move backwards, because the eye would sooner believe that one spoke has moved a short distance backwards than that the previous spoke has moved nearly the distance to the next spoke.

If in the 1/24th second the wheel has moved exactly half the distance from one spoke to the next (Fig. 3), the wheel will appear to have double the number of spokes, which will be stationary. At any speed less than this, the illusion will be correct.

Mathematically, these facts can be expressed by simple equations, in which V is the speed of the wheel in revolutions per second, and n is the number of spokes. Spokes will appear stationary when

$$V = \frac{24}{n}$$

At any speed slightly less than this, the spokes will appear to move backwards. The spokes will appear to be double in number when:

$$V = \frac{12}{n}$$

The requirement for a correct illusion is:

$$V < \frac{12}{n}$$

In theory, stroboscopic faults can also occur at higher wheel speeds, but movement blur usually makes such faults unnoticeable.

As an example, if a 12-spoked wheel turns at exactly two rps, the spokes will appear stationary; if it turns at 1½ rps they will appear to move backwards; if

(Continued on Page 409)

WHERE spoke-wheeled vehicles are photographed at an angle, as in this scene from "Quo Vadis," the stroboscopic effect, although present, will be greatly minimized on the screen.

The above article is reprinted from "British Kinematography" magazine, London, England.

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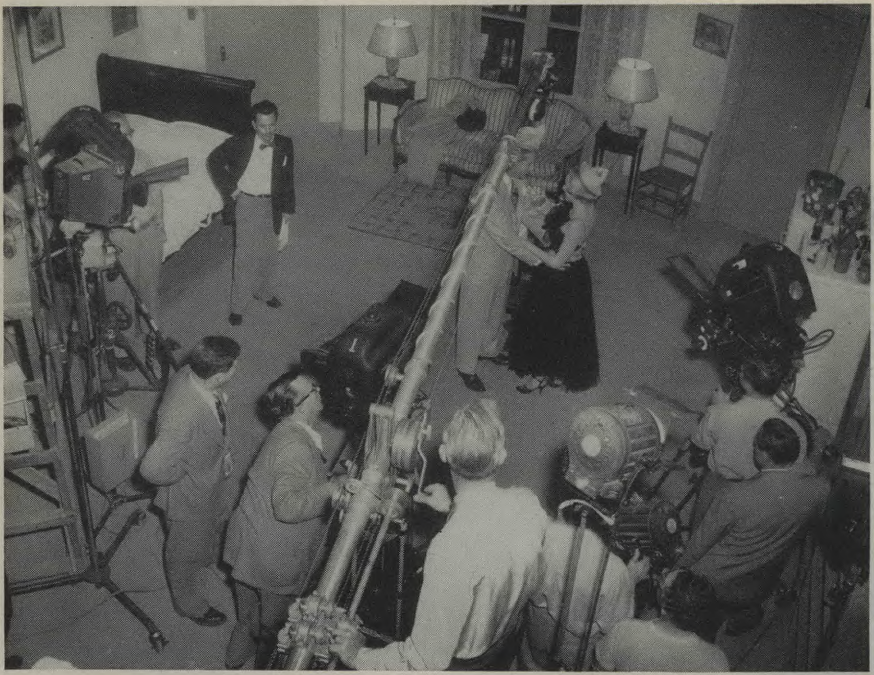
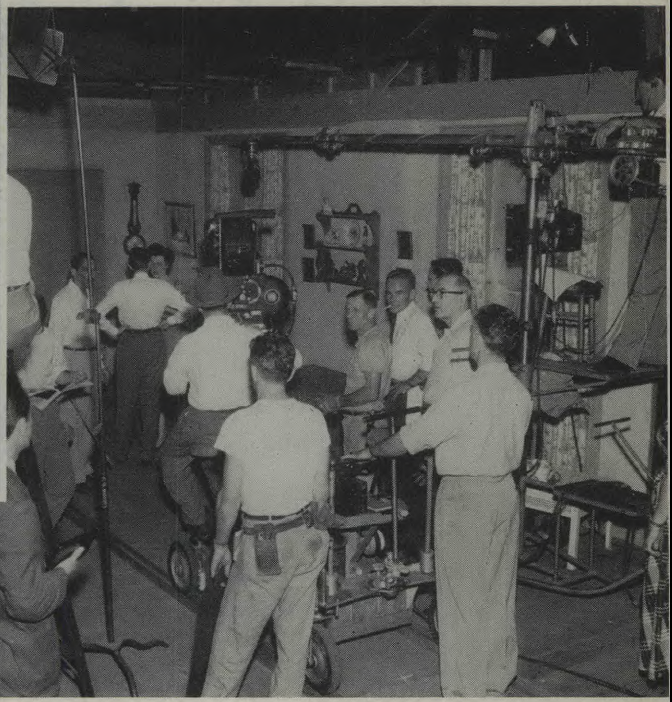


ABOVE SCENE in Jerry Fairbanks videofilm studios shows popular trend of TV film producers toward use of three cameras. Economies are effected by shooting a scene simultaneously from three angles, thereby reducing number of camera setups.



FOR ECONOMY of time and budget, TV film scripts should provide for fairly long takes, with variety achieved through careful dollying in and out as well as panning with the action, as in scene at right for Frank Wisbar's "Fireside Theatre" TV series.

Filming The TV Dramatic Featurette

Videofilms must have all the technical quality the public has come to expect in theatrical films.

By HERB A. LIGHTMAN

A SURVEY OF TV network programming for the past six months reveals the startling fact that while dramatic film series amount to just 10 per cent of total network viewing time, these programs hold the lead in viewer popularity by a wide margin. Among those at the top of the list are Fireside Theatre, Dragnet, Big Town, Gangbusters, Gruen Theatre, I Love Lucy, The Lone Ranger, Mystery Theatre, Racket Squad, the Roy Rogers show, Sky King, and the Stu Erwin Show.

It has now been proved to many who were watching and waiting that a live TV show can never have the technical quality and finish of a well-made film, especially when it comes to a dramatic show. The director is at the mercy of too many mechanical failures. Poor camera handling, badly timed "editing" by the Technical Director, and fluffs by the actors—all go out over the air with no possibility for retakes. As a result, there is a rapidly developing trend toward putting dramatic shows on film. The latest top dramatic show to switch from live to film is the Schlitz Playhouse, and several others are planning to follow.

It is a fact, also, that viewing audiences are becoming more critical, not only of program content, but of technique as well. Audiences now demand quality comparable to that which they are used to viewing on their theatre screens. The burden of developing the mechanical techniques necessary to achieve such quality has naturally fallen on Hollywood, and specifically upon the cameramen of A.S.C. and other technicians who have adapted the know-how of forty years of filming to meet the demand of the new medium.

After several years of trial and error on the part of the producers who pioneered the filming of the dramatic featurette for television, certain techniques can now be considered standard operating procedure for achieving the best results in this type of production. We can now set these down as guideposts for producers currently entering the field, and for those who will do so at a later date to satisfy the ever-growing audience demand for well-made TV dramatic shows.

The production of dramatic featurettes for television requires a special approach. We must remember that with only a relatively small number of stations now operating, budgets must be kept low. Production must be rapid in order to fulfill contracts of 13 to 52 weeks, and certain technical concessions must be made to the mechanics of the television medium.

As in any other motion picture, the dramatic featurette filmed for television has its basis in the script. Generally speaking, one should avoid plots which are too complicated, since time limits will not permit full development of complex sub-plots. Actually, in the average film scaled to fill a half-hour time slot, there is just about time enough to fully develop and resolve one central plot line. While minor digressions from the main series of events will add variety, any major tangent will only detract from the force of the program.

By the same token, it is unwise to use too many characters in the short dramatic film. Not only is a large cast expensive in terms of salary, but it is also harder to get really finished performances from a large cast on a light shooting schedule. From the audience's point of view, it is confusing in a short running time to have to identify and keep straight in one's mind a whole hatful of characters. A small cast, limited to two or three main players, will permit the director to work more carefully with each actor, and will keep the plot pattern clear for the audience.

A bit of fantasy in the television featurette is sometimes valuable for variety, but it should be used with caution—always bearing in mind the fact that there are those who tune in late on a program and who would be at a complete loss to understand a subject or technique that is too far-fetched.

Because action in the TV dramatic film cannot have quite the scope of that which we are used to seeing on theatre screens, a greater load is placed on dialogue. For this reason dialogue should be especially well written, using a generous amount of imagery to add to the actual picture which the audience sees. There should, however, be sufficient action so that the plot does not become "talky." Rules of dramatic construction characteristic of the one-act play also apply to the dramatic featurette, but with one major difference: since television is a commercial advertising medium, most shows are slanted for commercial sponsorship. In most half-hour shows there is a commercial spot at the beginning, one in the middle, and one at the end. For this reason the dramatic featurette filmed for television should reach a definite sub-climax near the middle, so that a commercial can be inserted, and so that the thread of the

(Continued on Page 410)

Television Film Production

By LEIGH ALLEN

Dan Jenkins, radio-television editor for the industry tradepaper, Hollywood Reporter, revealed some interesting statistics anent TV film producers in a recent column. Jenkins started a card file back in January, 1951, which contains a listing of every Hollywood TV film producing company announced since then, complete with titles of announced series, etc. Thumbing through it one day last month, Jenkins found the following rather frightening facts: 55 companies no longer in existence; 106 series which never got beyond the pilot stage, if indeed they ever got that far. He contrasts this with his current data which shows today's best possible estimate of the situation: 36 companies with a total of 44 TV series either completed, shooting or definitely in preparation; some 21 additional companies involving 25 "announced" series whose present status is, to say the least, doubtful.

"A year ago," says Jenkins, "it used to be the custom to announce that four different series would get under way at Pretzel Productions starting early next month (it was always 'early next month,' and still is 'early next month'). But even those outfits which have made a go of it have tended to cut their series down to one for the most part, with only four existing companies having as many as three different series actively in production or in preparation . . . . We have a hunch that by this time next year . . . . only a handful of hopeful amateurs will be hanging around the fringes and new entries will be solidly backed by money, experience and material."

•

James Van Trees, A.S.C., has been signed for his third straight year as director of photography for Filmcraft Productions, producers of the Groucho Marx TV show on film.

•

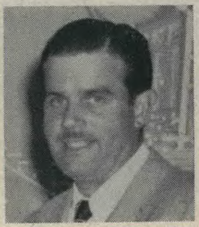
The major broadcasting chains (CBS and NBC) last month announced they will not enter TV film production, but will leave that production to others.

•

Screen Producers Guild Journal, last month predicted that the steady gobbling up of film production manpower by television may soon create a serious shortage of such talent in the major studios. Already, Local 659 of the International Photographers, Hollywood, is frequently hard pressed to supply camera operators and assistants.

•

Fred Jackman, Jr., A.S.C., and his Fred Jackman Productions Organization will photograph the coming Red Skelton TV shows on film. Show series will be produced by Key Productions, subsidiary of the Russell Seeds advertising agency.


Fred Jackman, Jr.

Key Productions has acquired lease on one entire stage on Eagle Lion lot, and has completed $400,000 remodeling job on the stage, which includes accommodations for 250 spectators.

Jackman has designed a special remote control board for his cameras—there will be three shooting the show—by which he can turn cameras on and off individually, put a cue mark on the sound tape as an aid to cutting.

Fred Jackman last year photographed the commercials for the Skelton TV show. His deal with Key Productions runs for period of seven years.

•

Gil Warrenton, A.S.C., has been signed by United World Films as director of photography on all TV film commercials.

•

John Boyle, A.S.C., is first cameraman to use the recently introduced Kinevox Scene Slater, which automatically brings miniature slate before camera lens and records clap-stick cue mark. Boyle has used device on "Big Town" TV films.

•

AUGUST TV FILM PRODUCTION: The following cinematographers were actively engaged in Hollywood last month directing the photography of TV films:

Lucien Andriot, A.S.C., Bing Crosby Enterprises, RKO-Pathe Studio.

Joseph Biroc, A.S.C., Marion Parsonnet Prodns.

John Boyle, A.S.C., Gross-Krasne, Inc., RKO-Pathe Studio.

William Bradford, A.S.C., Flying A Prodns.

Norbert Brodine, A.S.C., Showcase Prodns., Hal Roach Studios.

Ellis Carter, A.S.C., Federal TV Corp.,

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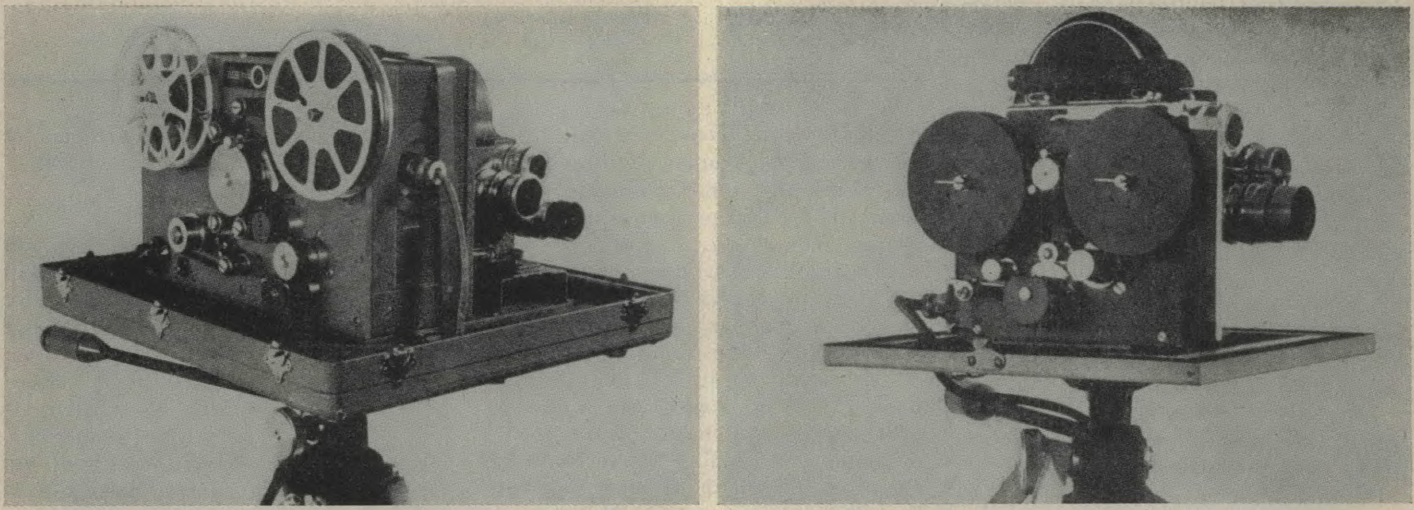
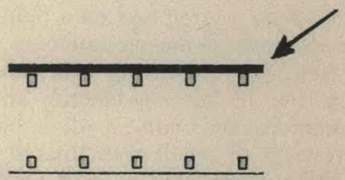


COMPACT MAGNETIC sound recorders for use with 16mm cine cameras for producing lip-sync sound have been developed by two French manufacturers of electronic equipment. Powered by small battery-driven motor, recorder is coupled mechanically with camera and mounted on carrying-case cover, as shown here. Units weigh about ten pounds, record on sprocketed 16mm magnetic film at either 16 or 24 fps.

Now--Magnetic Sound For All Cine Films

Several new and interesting developments in magnetic recording for both 8mm and 16mm promise a resurgence of interest in amateur movie making.

By JOHN FORBES



THE 30-MIL track is applied between perforations and film edge by Bell & Howell Company.

THERE'S LOTS OF GOOD NEWS for movie amateurs these days, and it all has to do with the application of magnetic sound to home movie films. First there is the announcement of a new development by Bell & Howell whereby it no longer is necessary to have dupe prints made of your films in order to provide Soundstriping for magnetic recording. This means that now you can have Soundstripe magnetic track applied to any and all of your old 16mm films for recording and playback on the recently introduced Bell & Howell model 202 magnetic recorder-projector.

Until now, it has been necessary to first have a duplicate print made of 16mm films on single perforated (sound) stock, which afforded space on the unperforated edge for Soundstriping. The total cost was about 12½c per foot, or $50.00, to copy a single 12-minute silent color movie for sound. Now you can convert your old films directly to sound for only 3½c per running film foot, which is the cost of Bell & Howell's Soundstripe service.

It also means it is no longer necessary to shoot 16mm films, for later application of magnetic sound, with cameras having sound sprockets, i.e., having a single row of teeth; in other words there is no need to have your present camera altered to use single-perforated 16mm film, if you use a Bell & Howell recorder-projector and Bell & Howell soundstriping service. Silent film exposed in all types of 16mm cameras (both magazine and roll film) can now be striped for magnetic sound.

The problem which Bell & Howell had

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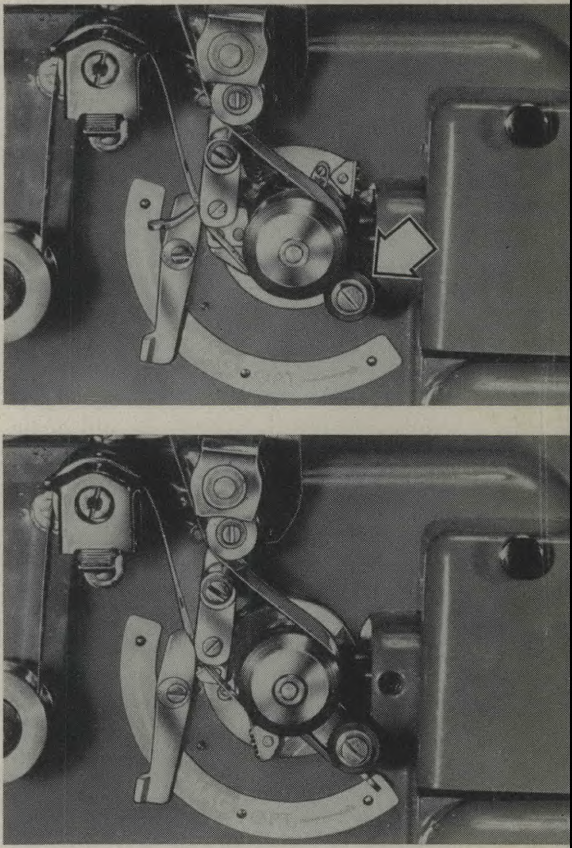

MODEL 202 Filmosound will now record and playback double-perforated 16mm film. Small retractable rubber roller (arrow) has been added to hold sound track firm against head. Top photo shows roller in running position; at bottom roller is shown retracted.

Get sparkling, sharper movies with *finer* Ansco Hypan!

You'll be delighted with the brilliant, crisper movies you get with this famous Ansco black-and-white film!

Ansco Hypan Reversible offers good speed (Exposure Index of 40 for daylight, 32 for tungsten), and gives you the fine-grain images with inherently brilliant contrast that put new snap and sparkle on your movie screen.

There's real economy, too, in Hypan's low price—important savings that let you take more first-quality movies for your money!

You'll find this *finer*, Ansco Hypan Reversible Film for 8 and 16mm cameras, at photo dealers everywhere.

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LENGTH OF EACH SCENE should be determined at time of photographing it in order to insure adequate footage for cutting and intercutting. Briefly, scene length depends on how long subject or action will sustain interest on the screen.

How Long Should A Scene Be...?

Much depends upon the subject; but scenes should be long enough to convey what you wish to tell, short enough to keep the film well paced from beginning to end.

By LEO J. HEFFERNAN

Photographs by Author

How long could you listen to a concerto or a symphony in which all the notes were of the same duration? Likely not for long, because the monotony would soon prove unendurable. For the same reason, movies in which all scenes are of the same length and duration on the screen are apt to become boring. The professional film maker, of course, knows this, but here is an important secret of movie making that all too few amateur movie makers have discovered and put to use.

How long should a scene be? This is the $64 question that only experience and study can furnish the answer. But every movie amateur should have the answer if he expects to make successful films. This is not to say that the average amateur movie is composed of scene after scene all the same length. Most of the scenes vary in length all right, but too often the individual scenes are not photographed or edited to the length suitable for the sequence into which they are cut.

Why should scene length concern the amateur filmer when he sets out to shoot his movies? Because unless he considers the correct length the scene should be when finally edited, he's likely to make the scene too short, or overshoot and waste valuable film. There are two occasions then when the amateur should be concerned with scene length: when planning then shooting the scene, and when editing it into the film as a whole.

Someone once said that "Brevity is the soul of wit." Certainly it is the essence of good movie making; yet many amateurs carry brevity to extremes and make all scenes too short. When it comes time to edit the footage, there is little or nothing that can be done to gloss over the missing footage.

If good movie making were simply a matter of brevity, there would be no problem; in that case all scenes could be scissored down to bare essentials. But here we would be disregarding *tempo* — an important factor in putting movies together at the editing table. Just as tempo is given to music by altering the duration of the notes, so movies are given a measure of visual tempo or pace by altering the length of individual shots according to their relation to the sequence or picture as a whole. Whether you realize it or not, every picture you see on theatre screens has been edited with an eye for tempo—something you can discover for yourself by timing the individual "cuts" as a feature film unfolds on the screen.

Good film editors are able to develop definite tempos or beats in a picture simply by varying the length of the scenes which go to make up a sequence — and this technique applies to amateur as well as professional films. Perhaps this technique can be more clearly defined in the following sequence analysis of a film recently produced by an amateur group. The sequence depicted action occurring in a street accident, as follows:

Scene 1: (9 seconds) Long shot from a third-story window, looking down street. In middle of street is an automobile in front of which a group of people is gathered and ostensibly looking down upon a victim struck by the car. Other people are running toward the scene.

Scene 2: (7 seconds) Medium shot from different angle showing police officer attempting to restore order.

Scene 3: (5 seconds) Medium closeup of boy lying on pavement in front of car.

Scene 4: (9 seconds) Medium shot, front of house across street; 12-year old girl leaves door and starts down street. Sees crowd of people gathered at scene of accident — turns and walks toward gathering.

Scene 5: (11 seconds) Medium shot. At fringe of crowd, girl tries to push through but cannot. She turns and questions a bystander. He indicates he does not know what's going on.

Scene 6: (6 seconds) Long shot of street. Ambulance speeds around corner into the street and moves toward scene of accident.

Scene 7: (8 seconds) Closeup of girl. Ambulance in background; doctor alights and moves toward crowd. Girl appears disinterested, then glances quickly over her shoulder toward ambulance. Her face brightens, indicating she has an idea.

Scene 8: (12 seconds) Medium shot, looking toward ambulance; doctor with firm grip on his bag, walks toward crowd. As he nears, people open up a passage for him. Little girl sneaks in right behind him, and the two are engulfed by the crowd.

Scene 9: (5 seconds) Closeup (from low angle) of girl, now in front row of curious onlookers. Suddenly looks down directly at camera.

Scene 10: (6 seconds) Reverse angle shot from girl's position, looking down. Boy on pavement, doctor kneeling beside him. Doctor reaches over to get something from his bag, thus momentarily revealing boy's face to view.

Scene 11: (4 seconds) Little girl sees boy, recognizes her brother. Registers alarm. Is stunned momentarily as she screams. She turns and fights her way out of the crowd.

Scene 12: (10 seconds) High angle medium shot. Frightened girl emerging from crowd. Camera follows her as she runs across street to her home.

Scene 13: (13 seconds) Medium shot. Boy on stretcher is being placed in ambulance. Door is closed quickly as doctor climbs aboard and the ambulance starts to move away. (Fadeout.)

In this example, scene lengths vary from 4 to 13 seconds. There is one each of 4, 7, 8, 10, 11, 12 and 13 seconds duration, and two scenes each of 5, 6, and 9 seconds duration. In timing the scenes in the cutting, there was but one consideration: the action within the scene.

Here, tempo in the sequence is illustrated by the manner in which the pace of the events were controlled in the various cuts. What we see is an accident that took place on a normally quiet residential street as a boy walked leisurely home

(Continued on Next Page)

DETERMINING THE ULTIMATE scene length invariably is done at the editing board. Many an otherwise good film has been spoiled because there was not enough footage in a given shot to permit cutting for proper tempo. The cine photographer who also does his own editing readily learns the lesson of gauging the correct scene length.

A SCENE such as this where nothing much is happening should be cut short, no matter how attractive it is pictorially—in this instance to about 9 seconds duration.

SCENE FILMED FROM a moving boat, such as this, has unusual dramatic and pictorial interest, demands longer screening time—say about 15 seconds.

LIVELY SCENES with lots of action should be long enough to permit scanning all details on the screen. This shot was allowed 20 seconds in a vacation travel movie.

HOW LONG SHOULD A SCENE BE?

(Continued from Page 397)

from school. The early scenes, even after the accident is discovered, are relatively slow paced, but when the little girl discovers that the victim is her brother, the drama of the situation is immediately hightened — thrown into high gear, so to speak — by quicker, shorter cuts that cause the audience to react to the situation unfolding on the screen.

When photographing staged action such as described above, the experienced cine photographer will shoot all of the important scenes a second time from a different camera viewpoint in order to provide the cutter (or himself) with adequate footage for cross-cutting in editing. These shots make possible shortening the individual scenes which cover continuous action. Thus, if the tempo should be fast, but the business of the scene is prolonged, the staged action may still be shown in its entirety by cross-cutting from one viewpoint to another and in this way minimize the dragging effect of overlong action if shown in one continuous shot. Thus, cross-shooting is insurance against the need for speeding up, or shortening tempo in the editing of a film. Conversely, footage can be *added* to extend the action if it is desired to slow the tempo down.

Up to this point, we have considered only the length of scenes which call for human or other action, as in a photoplay. Before turning to subjects more in line with typical amateur movie making, it might be well to sum up what has been revealed thus far:

1. In photoplays, news-reels, travelogues, or home movies, if there is action within the scene, the length of the scene will depend upon the duration of the action.

2. The overall action is broken down into long shots, medium shots, and closeups, so as to tell the story with greater clarity. This time-honored treatment tends to shorten the individual "takes" or scenes, the duration of which will vary greatly.

3. Varying scene lengths within a sequence furnishes a pulse or beat which relieves the monotony as one scene replaces another on the screen. Thus, there will be no sameness in the tattoo scene length beats upon the subconscious mind of one's audience.

4. Tempo influences the cameraman (or the film editor) when he is determining the length of the individual scenes, because long scenes slow down tempo whereas short ones quicken it. In cases where the action-within-the-scene determines the length of the scene, such action must be lengthened or speeded up in accordance with tempo requirements.

5. The affinity which exists between tempo and scene length is of the greatest importance in sustaining interest in any film and it is used effectively in building up suspense in dramatic sequences and in the timing of gags in comedy routines.

6. The cross-shooting of important scenes of long, continuous action is advisable because it provides "ace-in-the-hole" footage which may be vitally necessary in editing. Its use in cross-cutting permits changes in tempo.

Embryonic cameramen may be forgiven for wanting someone to tell them exactly how long a scene should be if they are starting out "green" with little or no training in movie technique. Film is expensive. Shots that are too long waste money, too, for they truncate interest on the screen.

Recently, a cine club bulletin offered this advice regarding cutting and editing: "Scenes should be long enough to convey what you wish to tell. Scenes should not be less than four seconds in length and not more than eight. Count seconds accurately; a good rule is to say as you shoot: 'Thousand-and-one, thousand-and-two,' etc., which gives an approximate timing of one-second to each count."

Now, this is a good general rule and I can endorse it heartily as a guide for anyone who does not want to clutter up his mind with a miscellany of technical data which might only confuse him. Rules are the staff of life and they are nice to have handy for a beginner to latch on to as he puts his best foot forward. If his early efforts center around static shots, such as landscapes, flowers, shots of animals or pot shots of friends, he can do much filming without the need of further advice on scene length.

Later, he will forget his basic training as he comes to realize that the length of a scene depends upon the subject matter, the action, and the tempo. Each of these factors must be taken into consideration. After that there are three questions which need to be answered:

1. How long must the scene remain on the screen to permit the audience to grasp the significance of the subject matter?

2. How long will the subject sustain interest?

3. How does the length of the scene suit the tempo of the surrounding footage?

To answer the first question, the amateur must visualize the scene flashing on the screen and put himself in the place of someone in the audience who has never before seen the shot. With a stop watch, he can count off the seconds as he imagines the mental reaction to the scene in question. After that, it is a matter of multiplying the seconds by 16 frames-per-second, or 24 if film is shot at sound speed, then making the scene so many frames long.

How long will subject sustain interest? Here again, the imagination is called into play, and the frames counted off.

The third question, which concerns tempo, is not easy to answer, because so much depends upon the effect that is to be created by means of the pacing of the film. A skilled cutter will know when the length of a scene is counter to the tempo, but the easiest way to detect errors will always be to run the film through the projector to see if any of the scenes disturb the even flow of continuity. As an example of wrong pacing, suppose one were to splice together a sequence depicting a quiet, pastoral mood, with shots of landscapes, animals grazing, etc., all scenes of generous length to carry out the unhurried effect—tempo, very slow. But, right in the middle a short scene is spliced, showing a number of trees whose branches are whiping about in a violent wind storm. It would not take an exert to know that this scene was comletely off-tempo. Short or long, such a scene would be wrong, but I submit this as an example of how subject matter, length of scenes, and tempo, challenge the attention of aspiring directors and film editors.

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theatre screen. Make use of every opportunity to study professional cutting technique—it's the shortest cut to perfection in your own movie making. Invariably, the answer to the questions for average amateur films is: "It depends on how long the subject matter sustains interest on the screen."

A shot of a field of daisies will wane in three seconds, whereas a closeup of a beautiful rose is good for six. Babies doing cute things, a beautiful girl, interesting animals in action, grotesque insects, and a host of other subjects sustain interest on the screen, and all a filmer has to do to determine the length of scene for any of them is to decide in his mind how long he could look at it *in someone else's movie*. He must forsake forever the desire inherent in cine amateurs to use every inch of film he shoots, because it represents capital investment. It is much better to regard discarded footage as the only true measure of his stature as a moviemaker, on the assumption that, if he can cut out the chaff, chances are there will be plenty of grain in the remaining footage.

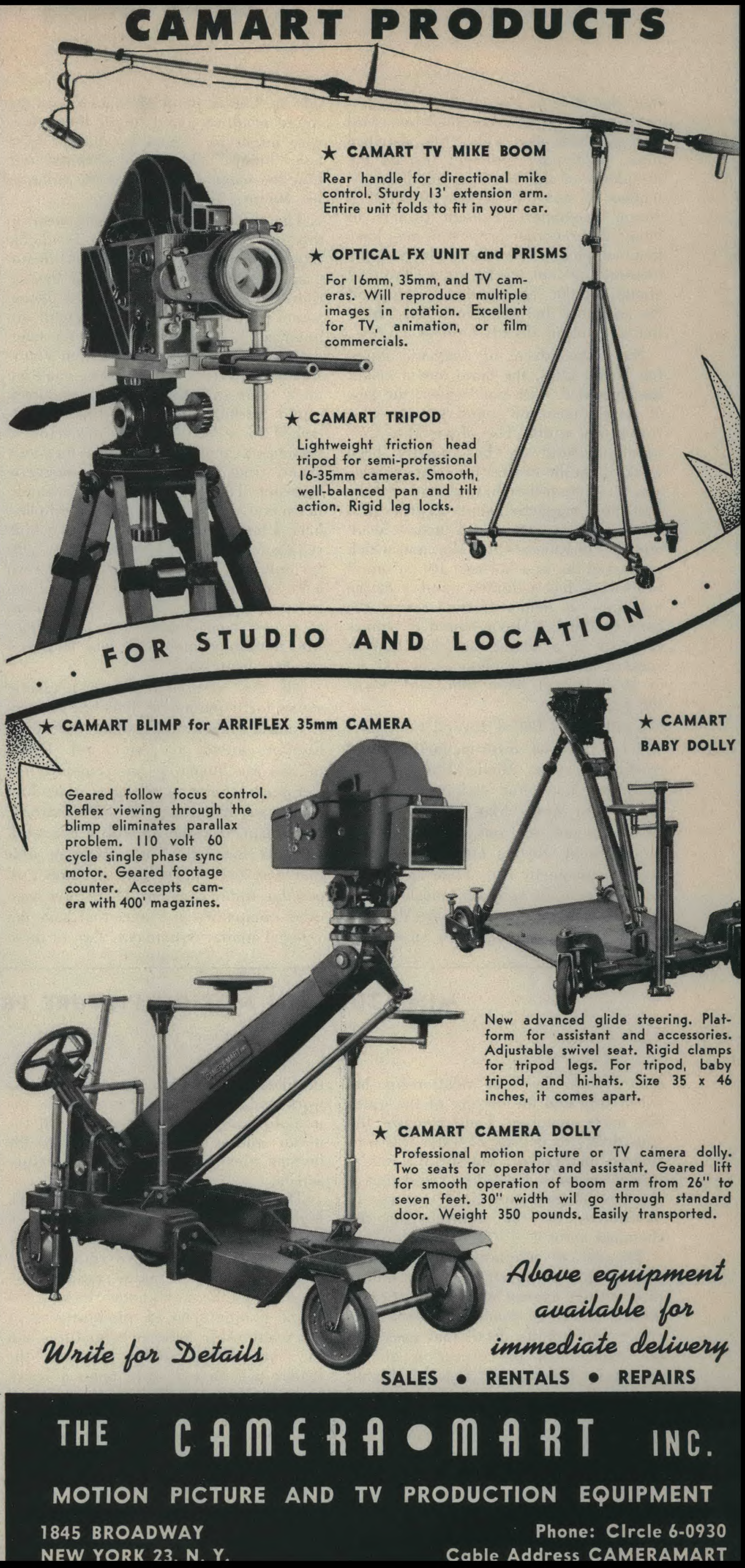
MAGNETIC SOUND

(Continued from Page 394)

to overcome to make possible magnetic sound on double-perforated film was that the Soundstripe had to be placed between the sprocket holes and the edge of the film closest to the projector, and on the side of the film facing the projector lamp, so that it could be recorded and played back with the same heads as for regular Soundstripe. It was found that the sprocket-holes or perforations in the film caused it to bump unevenly over the magnetic heads. A way had to be found to keep the film firmly in contact with the heads, without increasing the pressure on the heads, so that head life would be maintained.

The problem was solved by adding a small resilient roller to the film movement; the roller supports the film at point of contact between head and Soundstripe and irons out the bumps. The new Soundstripe for double-perforated 16mm films, incidentally, is 30 mils (.030 inches) in width. The sound quality achieved with this narrower magnetic track is excellent for voice and music at 24 fps, and is relatively good for both voice and music at 16 fps. It is unnecessary to speed up films shot at 16 fps to 24 fps to record magnetic sound on Soundstripe tracks. The Bell & Howell recorder-projector records and plays back at both speeds.

This new development does not mean



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that the Bell & Howell 202 recorder-projector, originally designed to record and playback the wider Soundstriped films, is already obsolete. Instead the usefulness of this machine has been extended to serve a greater number of 16mm cinefilmers. Present owners of model 202 recorder-projectors may have them adapted to record and playback the narrower 30 mil tracks for a charge of about $35.00. The models coming off the assembly line today, of course, have this adaptation already built in.

Since the advent of magnetic sound for 16mm films, the 8mm movie maker has lamented, with good cause, the lack of development of sound for the narrower film width. The Movie-Mite Corporation, however, has quietly been working on the project for some months, and this month they have announced the first 8mm magnetic sound recorder-projector. The company, with factory headquarters in Kansas City, Mo., and which pioneered the first low-cost 16mm sound projectors, has a limited number of the machines in demonstration across the country. Their "Movie-Sound 8" comes complete in a single case, has built-in speaker and a microphone, will take up to 1600 feet of 8mm film, and retails for $398.50.

Unlike with Bell & Howell Company, which offers its own magnetic sound tracking service, Movie-Mite Corporation does no sound striping. Striping service for 8mm films is offered by Reeves Soundcraft, one of the pioneers in this field. Reeves applies a narrow stripe of magnetic iron oxide 25 mils in width next to the sprocket holes on 8mm film. Like Bell & Howell, Movie-Mite has also developed a method for smoothing out the film at point of contact with the sound head, to avoid flutter that otherwise might be caused by the sprocket-hole "bump." The cost of striping 8mm film for magnetic sound is the same as for 16mm—3½c per foot.

The third important development in this field of magnetic sound for home movie films is that of Victor Animatograph Corporation, long one of the nation's outstanding producers of 16mm sound projectors. Last month Victor announced its Magnesound unit—a magnetic sound *attachment* for 16mm Victor sound projectors old or new, enabling them to record and playback magnetic sound tracked films. With this unit attached to a Victor sound projector, it becomes a combination optical-magnetic sound track reproducer and magnetic recorder. The unit consists of an amplifier-mixer, microphone, and record-playback attachment for the projector which requires no factory-installation. It sells for only $175.00; so if you already own a Victor 16mm sound projector, you can go into magnetic sound film making at a cost considerably less than those who must buy one of the new magnetic recorder-projectors.

All this development of magnetic sound for home movie films has naturally caused some thinking about recording lip-sync sound as 8mm and 16mm movies are filmed. It has remained for a French company, Tolana, a leading European manufacturer of electronic equipment, to come up with a practical, compact magnetic film recording unit that may be coupled with a number of popular 16mm cameras. There have been other companies in France that have developed similar equipment. Two of these units are illustrated on page 394. The photos show how the recorder, with camera attached, is mounted on the base of a carrying case, then mounted on a tripod.

The Tolana recorder, which carries the trade name of Mini-16, is driven by a small electric motor which turns both the camera and the recorder. Four small batteries supply enough power for recording ½ to 1 hour. Thus far the company has developed couplings enabling the recorder to be used with the Bolex H-16, the Model II Cine Kodak Special, and the Pathe 16.

It is not unlikely that similar equipment is currently being developed in the United States. When it is announced it will find a ready market. There are enough prospective customers among American cine amateurs to warrant several manufacturers to go into production on recording units for cine cameras. Rumors are rampant, of course, but manufacturers are naturally reticent to make any announcement until ready to go into production.

So . . . considering all these developments, there's a bright, rosy future ahead for the amateur movie maker. Sound—the logical "next step"—has been floundering around just waiting for the right application to come along to make it both practical and inexpensive for the amateur. Magnetic sound has proved a natural for the cine amateur, and you may be sure it's the big thing for the future.

Indeed, already several readers — regular annual contestants in American Cinematographer's yearly motion picture competitions—have announced that their 1953 entries will have magnetic sound on film.

MINIATURES IN MOTION PICTURE PRODUCTION

(Continued from Page 387)

such scenes, the scale relationship between ship and the density of the water was more equalized. Until recently, the consistency or density of water was considered unalterable; but MGM's miniature technicians have discovered that it can be changed appreciably for use in miniatures by the addition of the chemical aerosol.

The use of miniature ships, trains, planes, etc., obviously calls for miniature settings against which the action is played, and these demand the same precision and infinite detail that goes into the models. In the execution of the miniature design, exact detail is highly important, especially in the foreground or in prominent elements of the setting elsewhere in order not to destroy any of the illusion of reality. So precise is this work today, that it is rare when the miniature work executed by any of the major studios is evident as such to the layman when seen on the motion picture screen.

The accompanying photos show the high degree of realism accomplished in the construction of the miniature ships and sets for "Plymouth Adventure." Due to the reluctance of major studios to release for publication photos showing the actual photography of miniatures or of the relationship between miniatures and the surrounding studio property, the reader will have to rely upon a word-picture of the procedure.

At Metro-Goldwyn-Mayer, miniatures and miniature action, such as that employed in "Plymouth Adventure," is invariably staged in the miniature tank on the back lot. This is a body of water roughly about 36 inches in depth and 300 by 300 feet in size. At one end a huge backing the width of the tank extends some sixty feet in height. Upon this the various miniature backgrounds and sky backings are painted.

Action was staged here for "Plymouth Adventure" showing the ships in various phases of the journey to America. They were shown in the harbor, from whence they set sail, in various positions in mid-ocean, and being pounded by high seas during the violent storm. Later the Mayflower is shown anchored off the American shore. The combined resources of nearly every department of the MGM studio were utilized at one time or another in the erection and the photography of the miniature scenes.

Of all these, the storm scenes proved the most challenging. Gillespie's technicians were met by the problem of providing realistic stormy seas in a pool of water scarcely an acre in size and a yard in depth. It was the actual wave motion, the building-up of the surging water into mountainous waves that proved the real challenge; neverbefore had such sea action been specified in an MGM miniature. Finally the problem was solved by building a huge water-plow, which was pulled through the water by a battery of 10 giant diesel trucks. To create the hurricane-like winds, the studio acquired 6 obsolete Navy bombers, sheared off the wings, and moved them to the miniature site. The giant propellers of the planes driven by powerful liberty motors whipped up a terrific gale. Augmenting these, were 3 conventional wind machines wounted on barges and floated on the lake. By changing positions of wind machines, various wind effects were made possible for scenes other than storm sequence. The ironical thing about this accomplishment, however, is that just about this time, the studio decided to do the whole picture in color, and all the miniature work photographed up to this point had to be done over again—some of it abandoned or substituted.

In the beginning of "Plymouth Adventure," the production was scheduled to be done in black and white. As the studio then was experimenting with its Ansco Color process, a number of miniature shots for "Plymouth Adventure" were also shot in Ansco Color, as a test of this new film in miniature production. The tests looked so good, the studio decided the picture should be made in color. As a rule, all miniature work for a picture is planned and executed far in advance of the start of the live action phase of the picture. This is because so often much of the miniature work is to supply background plates against which live action is played later. Thus it was that the miniatures phase of "Plymouth Adventure" occupied a little over a year to plan, execute and photograph.

No less important are the factors relating to the photography of miniatures. At MGM, Max Fabian has been the leading cameraman for this type of work for over fifteen years. According to Fabian, the importance of proper painting of the backgrounds, props and the miniatures themselves cannot be over-emphasized. Scale and distance—the illusion of actuality, in fact—depend largely upon this operation. Contrast must be eliminated in the foreground and accentuated in the background to aid in conveying the impression of natural atmospheric distances. The cinematographer, too, by the

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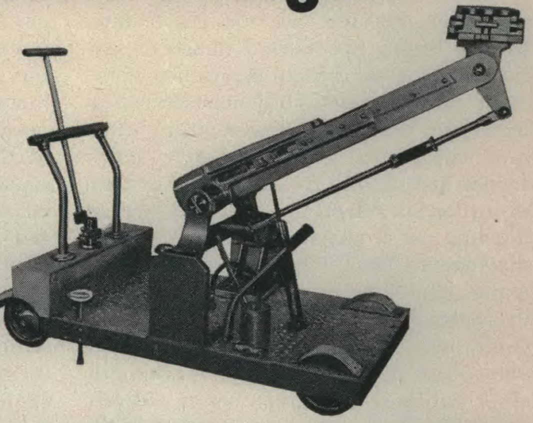

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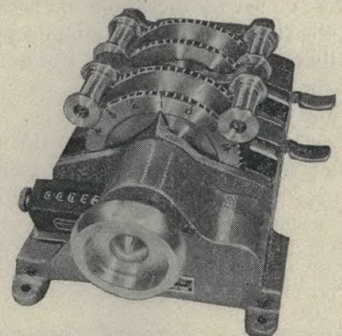

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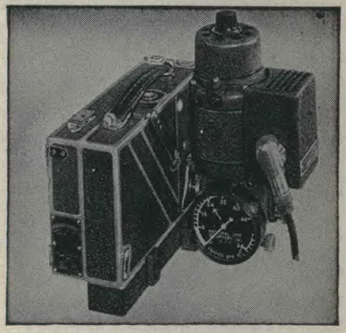

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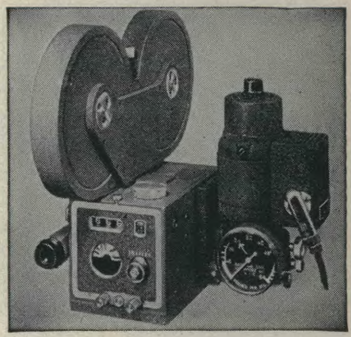

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discerning use of such devices as gauzes, glasses, and lighting effects plays a large part in creating this illusion. The use of natural backgrounds, when possible, and filtered skies add immeasurably to the scenic values of the shot, as well.

Like the planner and the builder of miniatures, the cameraman must be a specialist, because he, too, is dealing with a highly specialized phase of picture making, in which experience is his most valuable asset. Only experience can teach him the type of treatment, lighting, and equipment required; how many frames per second the camera must turn in order to effect the right degree of illusion for a given type of miniature movement. Thus, while there are many expert cinematographers capable of photographing full-scale action on normal studio sets, there are only a few really competent miniature cinematographers.

"Lighting a miniature set is entirely different from lighting a set on the sound stage," Fabian said. "The scale of the miniature and the speed of the camera must correspond exactly, while different types of action require different taking speeds. As a rule, the best results are obtained by the use of above-normal camera speeds. We shot the 'Plymouth Adventure' miniatures at speeds ranging all the way from 72 to 96 frames per second. The normal speed was 84 fps. For example, when shooting the storm scenes, we used the faster speed of 96 fps. Then when we photographed the ships in calmer seas, we reduced the camera speed to 72 fps."

Probably most important of all is the placement of the camera, for upon this depends much of the success of the shot. Here again the cinematographer draws upon his vast experience. Not only is the horizontal angle important, but the height of the camera, as well. This last factor is greatly influenced by the size and scale of the miniature, as well as by the nature of the action.

In most of the shots of the boats for "Plymouth Adventure," the camera was mounted on a parallel, the top of which was just barely above the level of the water. This enabled Fabian to photograph the ships at an angle corresponding to a normal eye view from shore.

A notable feature of miniature photography is that, despite the need for detail, the scene is nevertheless both lighted and photographed softly. The inexperienced cameraman, filming miniatures, invariably will photograph his scenes too crisply, which destroys the desired illusion of naturalness and reveals the scene for what it is—a miniature.

Fabian shot all miniatures for "Plymouth Adventure" in daylight—both the day and night shots. No artificial light was used at any time. Reflectors were used for booster light, and these same reflectors were put to unique use to supply the illusion of moonlight. For a moonlit scene of the ships at sea, Fabian had seven sunlight reflectors mounted atop the backing structure. These were tilted to reflect beams of light down on the water at a sharp angle. The illusion of nighttime was further heightened by painting the backing for a night sky—moonlit clouds, etc.—and under-exposing one full stop. All of the miniatures, incidentally were shot in Ansco Color, mostly at 84 fps, at f/5.6, with balance of the production being filmed in MH (mazda) Technicolor. Lenses used ranged all the way from 25mm to 3 inches; but those most frequently used were 35mm and 40mm.

In shooting the storm scenes, the camera was mounted in a "bungalow" which was suspended over the set from a camera crane. In any miniatures where there is movement, the illusion of reality is enhanced by keeping the camera moving, also, according to Fabian. In this instance, the camera was moved about the set by the boom operator, giving the illusion it was mounted on board another ship—with the horizon line moving up and down, etc., as in most normal scenes of this kind.

Sometimes, in shooting the storm scenes the camera had to be used without the "bungalow" and in such instances, a water-proof housing of transparent plastic—actually a war-salvaged "blister" from a warplane—was placed over the camera.

To supply background plates for process photography of closeup scenes showing actors on deck of the ships during height of the storm, one camera, properly protected against the elements, was mounted securely on the Mayflower to photograph the deck with the sea as background. The storm effects were started and the camera remote-controlled from shore. Later, on the sound stage, the background footage thus secured served as a backdrop for some highly dramatic action that appears on the screen as though actually filmed aboard a full-scale vessel at the height of a storm.

According to Max Fabian, the cameraman shooting miniatures must be virtually an expert in super-speed cinematography, and have a great deal of experience in this type of work. Softness, which is all important, he pointed out, increases directly as the speed of the camera is increased; the cameraman, therefore, must know how to use this phenomenon to advantage.

Fabian's work in miniature cinematography over the years has been a serious career. No phase of the work has escaped his study and experience. During all the years he has done this work at MGM, he has built up a valuable reference library of film clips from the various productions on which he has worked. This shows the photographic effects achieved at various camera speeds and f/ stops. Thus, whenever he is confronted with a problem, the answer to which does not come immediately to mind, Fabian needs only refer to his records to find the answer. He admits that even with this resource, there are still occasions when it is necessary to experiment in order to determine the right factors that will give a certain result. Today, a scene often will be shot two or three times, each time at a different camera speed, f/ stop, or with different lighting, or with the miniatures operating at different speeds. The right take, of course, is selected the next day when the dailies are screened; the answer to a new and hitherto unencountered problem may thus have been found, and the data set down in Fabian's record book for possible use in the future.

The use of miniatures in motion pictures today is not a means of fooling the public, but one of giving them a better show for the money by taking advantage of new and modern techniques which make the hitherto impossible, possible. Miniature work is no longer confined to feature film production, but is widely used in making industrial and educational films, and films for television. In the major studios, the miniature department is considered the most interesting of all the studios' far-flung operations. Each assignment is a new and interesting challenge. Little wonder then that the men who comprise the personnel of these departments each have a record of many years of continuous work in their specialized field.

WARNERCOLOR

(Continued from Page 385)

specially for WarnerColor. When work first began on the film process, Bau set up an experimental laboratory just to explore and test new makeups for WarnerColor. He found that makeup could be eliminated almost entirely on players in all WarnerColor films, were it not for the day-to-day variations in players' complexions. Some makeup, he found, is needed to equalize the skin color and conceal the slight daily changes that occur due to health, sunburn or windburn.

We discovered many interesting things about lighting with WarnerColor, too. "The Miracle of Our Lady of Fatima" lent itself particularly to low key lighting in the interiors, and I therefore kept most of the interiors at a low level. The early scene between Gilbert Roland

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and Jay Novello in the wine shop responded particularly well to this lighting treatment, being sharp throughout and with genuine natural color. Because of WarnerColor's great depth of focus, most of our exteriors have a strong three-dimensional aspect.

The numerous scenes on the hilltop in which the image of the Virgin appears to the three children were done on the original negative in the camera; however, the Warner Brothers' laboratory is now using the three separation negative process in printing these scenes.

In "Fatima" the emphasis was on characterizations rather than on action, which implemented the previous WarnerColor productions. Director Brahm, therefore, was painstaking in developing compelling camera studies — virtually portraits—of the principal players, which may very well become the envy of contemporary still life painters, so successfully did we achieve new pictorial results with this color film process.

I am naturally delighted with the reception that has been given the WarnerColor photography of "Fatima." Already I have received many letters and telephone calls about it — some from persons not connected in any way with photography. As it would be to any motion picture cameraman, it was a great satisfaction to me that so many people recognized the great difference and improvement in this new phase of screen photography.

Two days after finishing "Fatima," I went on to new and even more interesting experiences with WarnerColor when I started shooting Warner's "Springfield Rifle," starring Gary Cooper. We started the production by shooting exteriors at the famous Lone Pine location site, filming on Mt. Whitney, about 9,000 feet elevation. From the cameraman's point of view, this WarnerColor production was vastly different from any of the preceding three. We didn't have any booster lights along because the story lent itself to many different moods, and the studio had decided to shoot in any and all weather—which we did. As an example of the shooting weather often encountered, one day we were filming in the snow in bright sunlight when the sky suddenly became overcast and snow started to fall. For the next three hours we had a full-sized blizzard, with snow reaching a depth of four inches. Director Andre De Toth took advantage of the situation for its pictorial possibilities and had us shoot one full sequence during the blizzard. It was so dark, I could scarcely get a meter reading—the meter needle barely moved—but we took a chance, with the result that we filmed scenes that never could have been obtained if staged under artificial storm conditions, indoors or out. This further testifies to the unusual qualities of Warner's new color film process.

"Carson City," starring Randolph Scott, was the studio's initial production with the new WarnerColor process. Quite naturally, John Boyle, A.S.C., who directed the photography, ran into many problems impossible to anticipate, even though extensive laboratory experiments had preceded the initial test-in-production of the film. Those of us who had worked on the experiments were a little nervous at the start, for no matter what our confidence was in the new film, we also knew that the studio had a good many dollars invested in pioneering it. During the tests and experiments, there were times when we were straining to get an exposure, and still other times when we were not at all certain that our focal depth was correct. However, none of us at Warner Brothers was prepared for the surprise in finding every exposure perfect. We now realized that we

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had not even begun to tap the vast potential of the new film's possibilities. As the dailies rolled in, we knew we had a winner.

WarnerColor has been in steady use now for little more than a year. The strides that have been made are tremendous; the improvement in color quality, contrast, etc., from film to film has been a revelation; but all this is all the more intriguing when you consider we still have a lot to learn about WarnerColor's limitless possibilities. This film process, I am sure, will open up a whole new era to the motion picture industry—an era sure to see most all productions made in color at a cost scarcely more than that for black-and-white.

The WarnerColor production on which I am now working—"Back To Broadway," starring Virginia Mayo and Steve Cochran—is entirely different from all the others, with most of the scenes interiors. The film is set up for a 450 foot candle key at f/2.8, but there is very great latitude either way.

I have been fortunate in having the same crew with me on each WarnerColor production including operator Lou Jennings and gaffer Vic Johnson. Their vast experience and splendid assistance have made it possible for me to devote more time to getting the most out of this new color film process.

LIGHTING FOR HIGH-SPEED MOTION PICTURES

(Continued from Page 389)

is still far less effective on the overall photographic result than that which normally occurs in the day-to-day processing of either Kodachrome or Ansco Color. The ideal situation, of course, is to get maximum illumination on the subject at all times.

In the early days of high-speed camera development and usage at Bell Telephone Laboratories in New York, a series of lamps was designed, which employed parabolic and spherical mirrors. For lighting very small subjects, a 6-volt 50 candle-power lamp was used having a spherical mirror in back of it. This lamp was burned at 8 to 9 volts—just this side of burn-out. Clustered around a small subject, these lamps are ideally suited for use in filming microscopic studies; the image of the lamp filament, being small, can be "laid down" on the subject at approximately one-to-one.

Incidentally, it is necessary to have a small hole on the down side of the mirror reflector, so that when the lamp is mounted vertically the effect of the mirror becomes immediately apparent. Mirrors of short focal length are used for this purpose. Still larger units have been employed which used 250-watt, 24-volt lamps, but these have since been superseded by the Fastlite.

The Fastlite has a parabolic mirror back of the lamp, and the base of the lamp is mounted on a rack and pinion movement. Thus the lamp may be focused — moved toward or away from the mirror — so that image of the filament is projected directly on the subject. In order that heat from this concentrated light beam may not burn the subject, water cells have been added to the system to reduce the heat temperature. It is interesting to note that when the lamps, thus protected by the water cells, are used as close to subject as 18 inches, light intensities up to 150,000 foot candles can be obtained without inducing bubbles in the water cells, which, incidentally, do not require that the water be circulated during use.

The lamps used in the Fastlite units are 1000-watt, 100-volt. These are used in pairs and are burned at 120-volts. A series-parallel switch is recommended for use with these lights so that illumination may be reduced one-half during focusing and line-up, and the lamps burned at full voltage only when filming actually takes place.

In a recent study, using four of these lights at a distance of 8 feet from subject, it was possible to get satisfactory full-color exposures at 500 pictures per second, using a stop of f/4.5. When the lights are used closer than 8 feet, four will permit photography of subjects in color at rates up to 7,000 pps.

We have found that on occasion it is possible to introduce in the Fastlites mirrors of other focal lengths which make it possible to project on the subject still smaller images of the lamp filament. It is to be noted that when one projects the image of the filament, the brightest point of the projection will be where one is able to project that image at a magnification factor of one to one. Where the projection becomes twice the size of the original filament, the full benefit of the projection is not obtained, for it becomes much brighter than spilled light. Contrary to this is the fact that where a filament image only one-half the size of the original is produced, it still has the same brightness as the one-to-one image. It is not possible to intensify the image by reduction.

There are several several commercially available lighting units for high-speed motion picture photography, which are suitable for portable use. The most common is the 750R lamp (see illustration) which is normally used at a distance of from 14 to 18 inches from subject and which is brighter in terms of intensity than any of the other so-called reflector spot lamps. It should be used in conjunction with the series-parallel switch, described above.

This lamp will produce illumination about one-third as bright as the Fastlites. Consequently their use requires that exposure be increased accordingly, keeping in mind, of course, that one should work with the lens stopped down as far as possible in order to get the greatest depth of field.

The 750R lamp is not a water-cooled lamp and consequently is quite hot for many subjects. This may be remedied by placing a 5-inch Kolle culture flask filled with water in front of the lamp, to act as a heat-absorbing medium.

The RSP2 photolamp, developed earlier than the 750R, has from one-third to one-half the intensity of the latter. The 150-watt reflector-type show window spotlight, when burned at 220 volts, is another very good light source for high-speed photography. However, when using these lamps, one should exercise caution and not put the full 220 volts on this 110-volt lamp at once, but bring the voltage up gradually. Otherwise, the lamp is liable to explode.

The 12-14-volt and 24-28-volt airplane landing lamp is still another light source for high-speed photography, when burned at over the rated voltage. These have a tendency to project two small spots of light, which may or may not be a disadvantage. When using the 12-14-volt lamps, it is suggested that the line voltage be increased to between 17 and 18 volts, which will give sufficient brightness. For the 24-28-volt lamps, voltages of 32 to 34 will give satisfactory results.

Ordinary storage batteries can be used to furnish power for the airplane lights. As with the other lamps used with increased voltage, a resistor should also be used to bring the lamps gradually up to full brightness. Another advantage in using these lamps is that they may be used in high-speed cinematography aboard aircraft in flight, using the plane's power generators for current supply.

The measurement of light has always been a problem in high-speed motion picture photography. Many cameramen have adapted their own exposure meters for use with the special lamps employed. However, the most consistent results are obtained when readings are

(Continued on Page 408)

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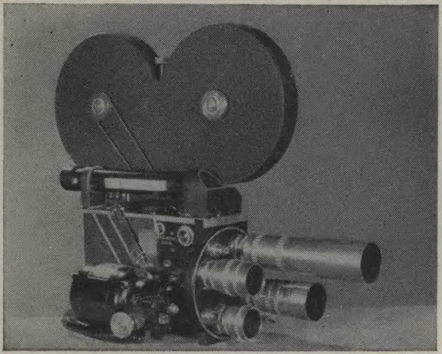

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Allied Artists

• Harry C. Neumann, "The Royal Mounted Police," (Cinecolor) with James Craig, Reginald Denny, Rita Moreno. Lesley Selander, director.

Columbia

• Charles Lang, "Salome—The Dance of The Seven Veils," (Beckworth Prod. in Technicolor) with Rita Hayworth, Stewart Granger, Chas. Laughton. William Dieterle, director.

• William Bradford, "On Top Of Old Smoky," (Gene Autrey Prod.) with Gene Autrey, Smiley Burnette. Geo. Archainbaud, director.

• Henry Freulich, "Serpent Of The Nile," (Esskay Pictures, in Technicolor) with Rhonda Fleming, Wm. Lundigan, Raymond Burr. Wm. Castle, director.

• Paul Ivano, "Story Of A Bad Girl," with Cleo Moore, Hugo Haas, Glenn Langan. Hugo Haas, director.

Metro-Goldwyn-Mayer

• Ray June, "Sombrero," (Technicolor) with Pier Angeli, Ricardo Montalban, Vittorio Gassman, Cyd Charisse. Norman Foster, director.

• Robert Planck, "My Mother and Mr. McChesney," (Technicolor) with Greer Garson, Walter Pidgeon. Jean Negulesco, director.

• Paul C. Vogel, "The Girl Who Had Everything," with Elizabeth Taylor, Fernando Lamas. Richard Thorpe, director.

• Harold Lipstein, "A Steak For Connie," with Van Johnson, Janet Leigh, Louis Calhern. Edward Buzzell, director.

• Victor Milner, "Jeopardy," with Barbara Stanwyck, Barry Sullivan, Ralph Meeker and Paul Fierro. John Sturges, director.

• John Alton, "Battle Circus," with Humphrey Bogart, June Allyson, Keenan Wynn, Patricia Tiernan. Richard Brooks, director.

• Robert Surtees, "Vaquero," (Ansco Color) with Robert Taylor, Ava Gardner, Howard Keel. John Farrow, director.

• Alfred Gilks, "See How They Run," with Dorothy Dandridge, Robert Horton, Harry Belfonte, Philip Hepburn. Gerald Mayer, director.

• Harold Rosson, "Dangerous When Wet," (Technicolor) with Esther Williams, Fernando Lamas, Jack Carson. Charles Walters, director.

• Joseph Ruttenberg, "Julius Caesar," with Marlon Brando, James Mason, Greer Garson, Deborah Kerr. Joseph Mankiewicz, director.

Monogram

• Ernest Miller, "Stranglehold," with Leo Gorcey, Huntz Hall, Marjorie Reynolds. William Beaudine, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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Paramount

• Frank Planer, "Roman Holiday," (Shooting in Rome, Italy), with Gregory Peck, Audrey Hepburn, and Eddie Albert. William Wyler, producer-director.

• Lionel Lindon, "Rock Grayson's Women," (Technicolor) with John Payne, Jan Sterling, Lyle Bettger. Edward Ludwig, director.

Republic

• Archie Stout, "The Sun Shines Bright," with Charles Winninger, Arleen Whelan, John Russell. John Ford, director.

R.K.O.

• Harry Wild, "Break-Up," with Jean Simmons, Victor Mature, Jane Darwell. Roy Rowland, director.

• William Daniels, "Never Wave At A WAC," (Independent Artists) with Rosalind Russell, Marie Wilson, Paul Douglas. Norman Z. McLeod, director.

20th Century-Fox

- Edward Cronjager, "Powder River," with Rory Calhoun," Corinne Calvet, Cameron Mitchell. Louis King, director.
- Joseph LaShelle, "My Cousin Rachel," with Olivia de Haviland, Richard Burton, Ronald Squires. Henry Koster, director.
- Milton Krasner, "Taxi," with Dan Dailey, Constance Smith. Gregory Ratoff, director.
- Charles G. Clarke, "Sixty Saddles For Gobi," with Richard Widmark, Don Taylor, Murvyn Vye. Robert Wise, director.

Universal-International

- John Seitz, "Desert Legion," (Technicolor) with Alan Ladd, Arlene Dahl, Richard Conte, Akim Tamiroff. Joseph Pevney, director.
- Maury Gertsman, "Lone Hand," (Technicolor) with Joel McCrea, Barbara Hale, Alex Nicol, Charles Drake. George Sherman, director.
- Charles Boyle, "Column South," (Technicolor) with Audie Murphy, Joan Evans, Robert Sterling. Frederick DeCordova, director.
- Cliff Stine, Abbott And Costello Go To Mars," with Bud Abbott, Lou Costello, Robert Paige, Martha Hyer. Charles Lamont, director.
- Russell Metty, "Man From Alamo," (Technicolor) with Glenn Ford, Julia Adams, Chill Wills, Victor Jory. Budd Boetticher, director.

Warner Brothers

- Ted McCord, "Stop, You're Killing Me!" (Warner-Color) with Broderick Crawford, Claire Trevor. Roy Del Ruth, director.
- Edwin DuPar, "Back To Broadway," (Warner-Color) with Virginia Mayo, Steve Cochran, Gene Nelson, Patrice Wymore. Gordon Douglas, director.
- Carl Guthrie, "The Jazz Singer," (Technicolor) with Danny Thomas, Peggy Lee. Michael Curtiz, director.
- Wilfred Cline, "By The Light of The Silvery Moon," (Technicolor) with Doris Day, Gordon MacRae, Rosemary DeCamp. David Butler, director.
- Robert Burks, "I Confess," with Montgomery Clift, Anne Baxter, Karl Malden. Alfred Hitchcock, director.

Independent

- Jack Russell, "The Monster From Beneath the Sea," (Mutual Prods.) with Paul Christian, Paula Raymond. Eugene Lourie, director.
- Winton Hoch, "Return To Paradise," (Aspen Pictures) (Technicolor) with Gary Cooper, Roberta Haynes. Mark Robson, director.
- Walter Strenge, "Mr. Walkie Talkie," (Hal Roach, Jr. Prod.) with William Tracy, Joe Sawyer, Allan Hale, Jr. Fred Guiol, director.
- Ernest Laszlo, "The Star," (Thor Prods.) with Bette Davis, Sterling Hayden, Natalie Wood. Stuart Meisler, director.

NOTE: Names of A.S.C. Directors of Photography who were engaged in the photography of films for television last month will be found in the "Television Production column" on page 393.

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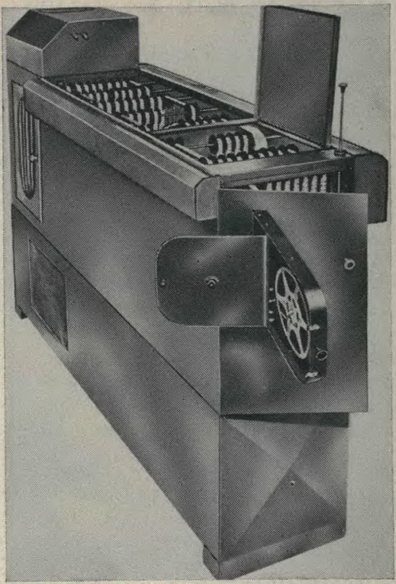

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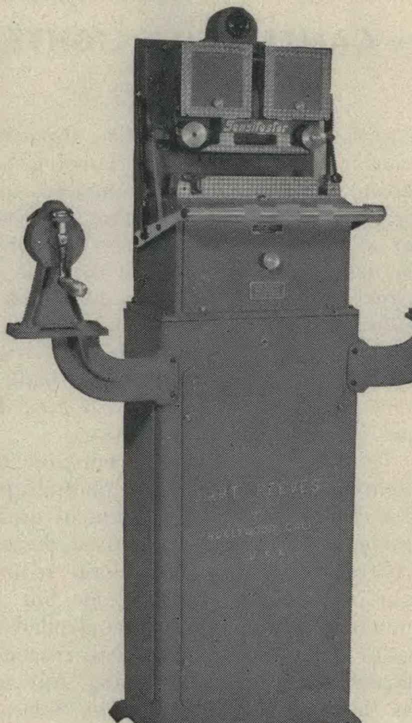

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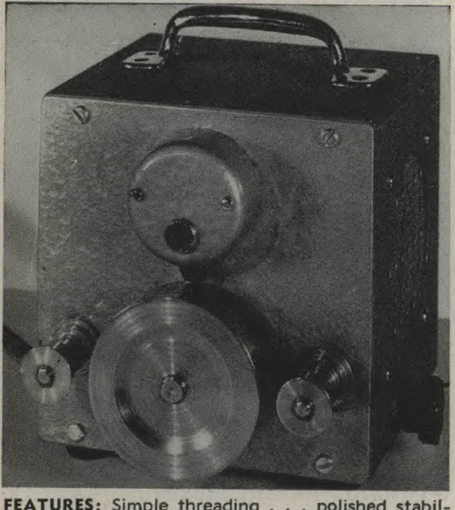

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LIGHTING FOR HIGH-SPEED MOVIES

(Continued from Page 405)

made of and exposures based on the incident light falling on the subject, rather than the reflected light.

A number of factors affect the final density obtained in the film, viz: the temperature of the illumination used, type of film emulsion, kind of film developer, and the method of development. Thus, preliminary tests should be run on each roll or batch of film to be used. Using the Fastax exposure meter (or the Weston Model 757), the meter paddle should be placed under the light, facing the source, with the lamps burning at peak brilliance. The paddle should first be set for 300,000 foot candles, then, if this is too high, the scale may be dropped to 30,000, dropping to that particular filter, or to no filter at 3,000. It is important to begin always at 300,000 foot candles, otherwise the meter may have a tendency to spin if it receives a jolt of 150,000 foot candles with the scale set at only 3,000 fs.

In choosing a light source for high-speed photography and in actually lighting the subject to be filmed, it is important to bear in mind that lighting for HS photography is very tricky, that the brightest light source obtainable should always be used, and that the lights should be shielded from the subject with water-cooled heat filters.

CAMERA FILL LIGHTS

(Continued from Page 388)

equipped with sockets to take three 110-volt mazda photo lamps burning base down. Each lamp is connected to a separate snap-switch so that one, two, or all three may be switched on or off as desired. At the front of the unit is a panel of frosted glass or filter silk to soften the light. When the camera is dolly- or crane-mounted, the filler usually is wired through the dimmer bank, so that its intensity may be regulated during progress of the dolly shot.

So far we have been discussing filler lights for black-and-white photography. For Technicolor a filler light of greater intensity is usually required because color photography in general requires not only greater light volume but illumination which can be controlled for color temperature. For this reason, a typical small mazda lighting unit such as the Mole-Richardson Baby Solarspot often is mounted atop the Technicolor camera blimp. On other occasions, a director of photography shooting color will develop his own lighting unit to supply filler light according to his own particular illumination ideas. Robert Surtees, A.S.C., developed an interesting light fixture for use in shooting closeups for MGM's Ansco Color production, "The Wild North." Pictured here, the light consists of a U-shaped sheet-metal trough mounted over the camera matt box. Within it are mounted nine No. 2 photoflood lamps wired in groups of three—each group connected to a selective switch. The quality of Surtees' closeups in "The Wild North" attests to the validity of his brainchild. Surtees, however, was not the first to use a fill light of this type. The late Tony Gaudio and Jack Cardiff, A.S.C., both designed and used a similar fixture for color photography.

In the early days of the "coed" or "lupe" type filler, according to cinematographer Jackson Rose, A.S.C., the cameraman invariably encountered trouble when using the lamp below the camera lens. Heat waves rising from the lamphouse in front of the lens caused diffusion if not serious picture distortion. This led to an important change in lamp design whereby a chimney was added to funnel off the heat to one side.

Instead of the rectangular type fill light, Rose invariably uses an Inkie Dinkie or baby spot mounted on a bracket attached directly to the camera dolly instead of to the camera itself. By using a spotlight instead of a "coed" he is able to regulate the pattern of the filler illumination and to concentrate it more than can be done with the "coed," which throws a wide beam of flat light. A frosted glass or spun glass diffuser is used before the spot, of course. Rose's pet term for the camera fill light is "wrinkle remover."

In this respect, John Boyle, A.S.C., agrees. Boyle says the nominal function of the fill light on the camera is virtually the same as that of the flash bulb in still photography—to wash out the shadows. Currently photographing the "Big Town" TV film series, Boyle invariably uses a filler mounted on his camera just above the matt box, when making dolly shots or closeups.

"The lamp must be intelligently used," said Boyle, "otherwise it can be troublesome. Here, a good dimmer operator is an important factor. If you have a good dimmer operator, then the filler can be a definite lighting asset."

Harold Lipstein, A.S.C., who is photographing "A Steak For Connie" for Metro-Goldwn-Mayer, says "I always use a 'coed' on the camera when filming closeups—usually in conjunction with two Inkie Dinkie spots mounted on brackets at either side of the camera. These give me soft fill light plus eye lights. The fill light is always cabled through the dimmer bank so that light intensity can be altered as we dolly in or out.

"Today, the cameraman is called upon to move his camera so much during a shot, that it is almost impossible to set up floor lamps that give satisfactory illumination on travel shots. With a fill light on the camera, the closeup light source travels right along with the camera; it is a great time-saver."

Phil Tannura, A.S.C., who has photographed many of Columbia Pictures' productions and who is currently shooting the "Burns and Allen" TV show, also uses the camera fill light as a regular procedure on closeups and tracking shots, "when it's impossible to get other lighting units properly placed for the shot," he said.

The late Gregg Toland was an avid user of camera fill lights and designed his own equipment. His lights were similar to "coeds," were made in two sizes, and were used both below and above the camera lens. It was not uncommon to see two fillers in use on his camera at one time when making dolly shots. Toland's success with these lamps is said to have given impetus to their general use throughout the industry. Today, Toland-designed fillers are a popular item of studio lighting equipment. Over-volted photo lamps of the photoflood type have also been used for fillers but without much success, due to the fact they cannot be satisfactorily controlled by dimmers.

WHEELS THAT STILL TURN BACKWARD

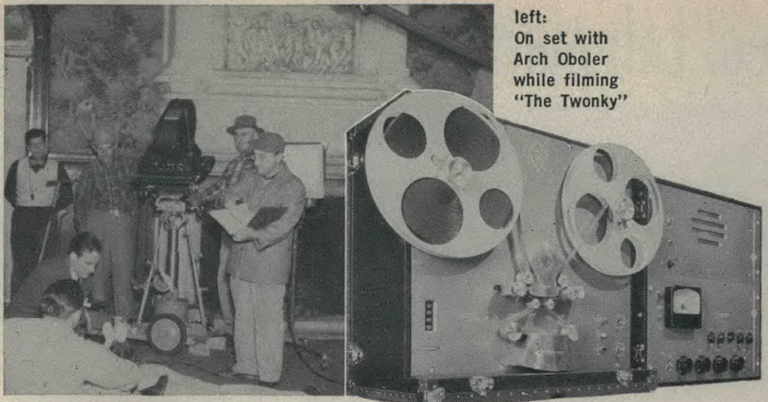
(Continued from Page 390)

it turns at one rps, two sets of spokes will appear. At any lower speed the appearance will be correct.

Simpler than mathematics is the use of some device which will enable the cameraman to examine the vehicle in the same way as the film sees it—at the rate of 24 separate glimpses per second. The obvious answer to this demand is the reflex type of shutter such as is a feature of the Vinten Everest, the Debrie Super-Parvo, the Eclair Camerette and the Arriflex cameras. If a moving wheel is viewed through the viewfinder of such cameras, any stroboscopic faults will be immediately apparent.

To provide for other cameras, I have before made the suggestion that the viewfinder should be fitted with a small shutter, synchronized with the camera shutter. In the case of a camera driven by a Selsyn or interlock motor, this would necessitate little additional complication.

If the cameraman, either by mathematics, by a reflex shutter, or by an



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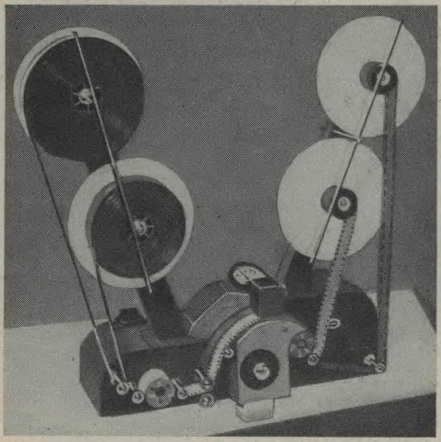

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improved type of viewfinder, discovers during rehearsal that the wheels of his vehicles are behaving in some improper fashion, what can he do about it?

The most obvious thing is to alter the speed of the vehicle. In all probability, if the vehicle is photographed at an angle, the effect, although present, will be unnoticed. But if these remedies should prove impossible—and, after all, the director is entitled to demand that elementary technical matters such as this should be subordinate to his ideas of the action—two remedies are left.

The first — rarely practicable — is to run the camera at a faster or slower rate. The second—which I seem to remember was once adopted by Sir Alexander Korda—is to fit the vehicle with wheels having a different number of spokes; in order to avoid guesswork the mathematics given above can be usefully employed.

The persistence of this elementary fault is due, perhaps, to the fact that we technicians have become so accustomed to it that we do not notice it, or perhaps in some cases think it is unpredictable. But the patron — especially the younger generation — notices the fault, and is curious as to its cause, which I have more than once had to explain to a technically-minded boy. It is high time it was eliminated, along with other faults of the early kinema.

FILMING THE TV DRAMATIC FEATURETTE

(Continued from Page 393)

story can easily be recaptured for the continuation of the film.

The principal physical problem of producing short dramatic films has to do with settings. Here again the problem is a two-fold one: that of budget and of suitability to the television medium. Generally speaking, the budget will allow one fairly ambitious set, or three to give rather sketchy sets. A setting which is conceived realistically must be fairly ambitious and the detail must be authentic enough to simulate the desired background. Therefore the realistic setting is the most expensive and time-consuming type of arrangement.

There is a growing preference for stylized or impressionistic sets which do not pretend to be realistic but which contain just enough line and form to convey the feeling of the desired setting. Such sets can be constructed very cheaply and easily—but they should be designed by someone who knows his business or they will look amateurish. Sets for TV dramatic films should be constructed in such a way as to permit reverse camera angles, thus giving a three-dimensional feeling to the production. Very often this result can be achieved through the use of a "wild wall," which is nothing more than a movable flat that can be placed as needed and dressed to form backings for various reverse angle scenes. Such "wild walls" should be of sufficient size to permit a fair depth of composition.

Where the budget is unusually low, where time is of the essence, or where one desires a simple but forceful background without having to build extra sets, it is often possible to use shadow patterns to excellent advantage. For example: a church can be suggested by projecting a cut-out of a Gothic window against a neutral-colored flat. A prison is suggested by projecting bars on the wall, etc. In order to achieve this effect, it is necessary to use a focus-spot lamp by means of which small cardboard cut-outs can be sharply projected against the background.

In designing sets for films to be shown on television, large areas of black and white must be avoided, since they tend to produce an unpleasant "bleeding" effect on the TV receiver tube. It is better to use tones of grey ranging from very light to quite dark. In place of black a very deep blue will give better picture results. Similarly, costumes should be designed to contrast properly with the background, as well as to help create authentic characterizations.

Camera technique as developed for the theatre photoplay must undergo certain adaptations in order to give the best results in television filming. Extreme long shots should be used very sparingly, since detail in this type of shot tends to blur out on the television tube. Television is a close-up medium, and that applies to *films* which are created for the medium as well as to live shows. Compositions should be tight, but centered in such a way as to allow for the cut-off of tube aperture which is characteristic of certain receivers.

For economy of time and budget, the script should provide for fairly long takes, with variety being achieved through careful dollying in and out as well as panning with the action. This implies that your actors will have to be good studies—that is to say, capable of memorizing lines rapidly and retaining them. The horizontal pan shot should be used only when needed to follow action, since it creates an annoying distortion at the edges of most television tubes. Dolly shots in and out are much to be desired, but they should be kept simple in order not to unduly increase shooting time.

From the dramatic standpoint, a variety of camera angles is very desirable, but each new camera setup means more time and consequently more expense—so it is wise to gauge your camera treatment to the budget and shooting schedule. Similarily, intricate special effects should be avoided, due to the time involved in achieving them and also to the fact that many subtleties apparent on the theatre screen become lost on the television tube.

When undertaking the photography of a series of TV films, in which certain basic situations will be repeated in each film, careful pre-planning with an eye to shooting all takes in one locale at one time will result in considerable economy of production. This is especially true when panoramic establishing-shots involving many players are required. Then it is wise to film all such shots at one time for use in the entire series, filing the extra footage for future use as needed. Further economy is possible through use of stock-shots which are available from the various commercial stock-shot libraries. These can be used to establish unusual locales, which otherwise might require long travel by a camera crew to film. Skillful editing or dissolves by the laboratory will give the illusion such scenes are a part of the original photography.

In the final analysis, the viewing public expects the same quality in television film productions it has come to expect in theatrical films. While certain limitations in present video systems preclude the possibility of rendering this quality in full measure at the present time, great progress is continually being made in this direction.

TELEVISION FILM PRODUCTION

(Continued from Page 393)

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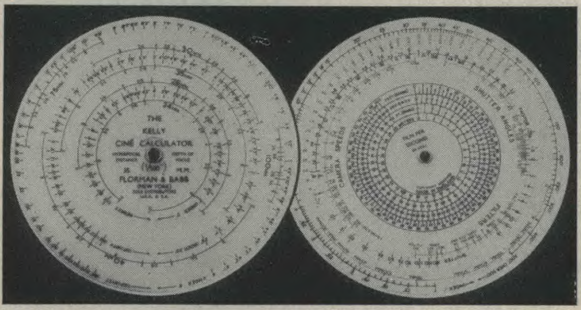

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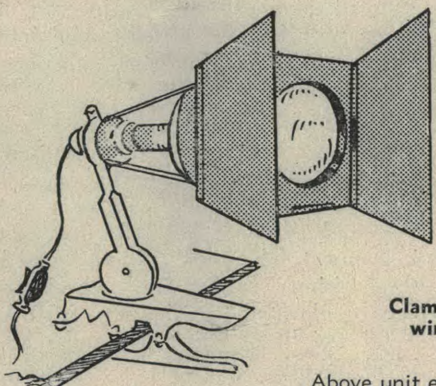

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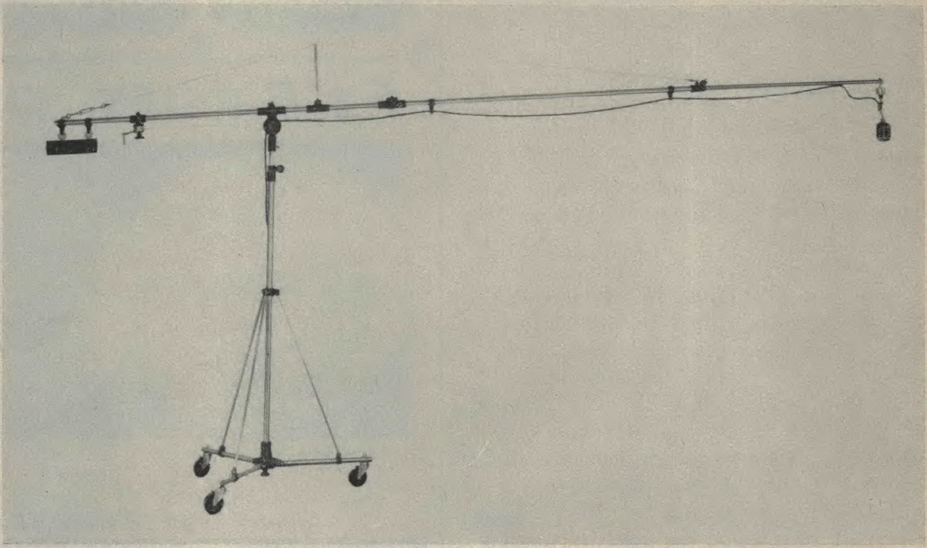

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Microphone Boom—Kadisch Camera & Sound Engineering Co., 128 West 48th St., New York, announces the Kadisch portable mike boom (illustrated above) for television and motion pictures. Rugged and expertly engineered, the boom may be readily telescoped into a compact 6½ feet for easy transport in car or trailer.

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Hypan In Magazines—Ansco, Binghamton, N. Y., a division of General Aniline & Film Corporation, announces availability of Hypan black-and-white motion picture film in 8mm and 16mm magazines. New and improved Hypan was first announced two months ago in 25′ rolls of twin 8mm, and 50′ and 100′ rolls, 16mm.

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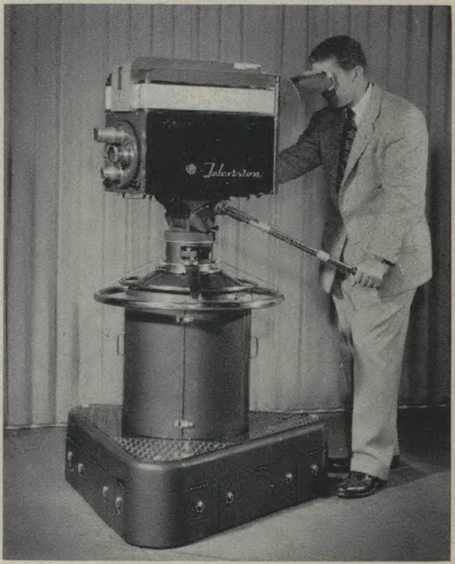
(Continued on Page 414)



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SOUND RECORDING at a reasonable cost. High Fidelity 16 or 35. Quality guaranteed. Complete studio and laboratory services. Color printing and lacquer coating. ESCAR MOTION PICTURE SERVICE, INC., 7315 Carnegie Avenue, Cleveland 3, Ohio. Phone ENdicott 1-2707.

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NATURAL COLOR SLIDES, Scenic, National Parks, Cities, Animals, Flowers, etc. Set of eight $1.95. Sample & List 25c. SLIDES - Box 206, La Habra, California.

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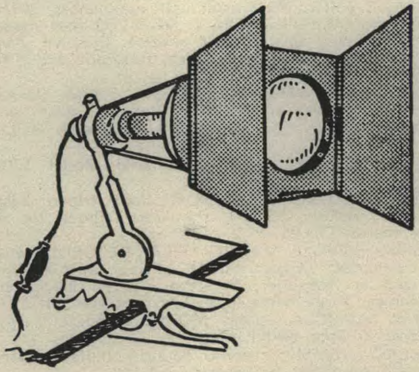
WHAT'S NEW

(Continued from Page 412)

Raising or lowering of camera is accomplished by simply lifting or pushing on the steering wheel or camera, made possible through a unique system of counterbalancing weights.

Set Lighting Aid — Schoen & Crowe, 403 West 47th St., New York 36, N. Y., offer the Alligator Clamp With Barn Door (pictured below) which may be used in conjunction with R2, R40 or Par 38 photolamps to achieve controlled illumination in motion pictures and television.



The alligator clamp permits hanging the unit from a nail on wall, clamping it to chair, door, rail or top of set; or it may be set on the floor.

Price of complete unit is $15.00.

Camerette Agency Moves—Benjamin Berg Agency, U. S. representative for Eclair-Paris, manufacturers of the Camerette motion picture cameras, has moved to new and larger quarters at 1366 No. Van Ness Ave., Hollywood 28, Calif.

Berg will soon unveil Eclair's new 35mm studio production camera, as well as a new sound blimp for the Camerette.

Berg also operates Television Recording Service, Inc., with headquarters at KTTV Studio, Hollywood, which specializes in off-the-tube film recording of TV programs.

Remote Control Tripod — Kinevox, Inc., 116 S. Hollywood Way, Burbank, announces a unique remote control tripod for TV cameras used in industrial video (closed circuit) photography. Tilt and panning action is motivated by servo-motor mechanism having a remote control that may be operated from any distance.

Remote control box has a single "joystick" control by means of which tilting and panning of the camera can be accomplished. Range of tilt is 90°; panning action, 180°. The unit is operated by ordinary 110-volt current supply, which is reduced to 24 volts in the power circuit.

Tripod is first of several units which will make up the new Kinevox Industrial TV Chain soon to be announced in the industrial field. The tripod reportedly is also being tested for use with several new TV film recording systems.

Magnetic Sound Advice—"Tips On Making Your Own Magnetic Sound Movies" is title of latest "How To Do It" booklet offered by Bell & Howell Company.

REVIEWS

(Continued from Page 380)

and settle down. He encounters Maureen O'Hara, decides to marry her, but without reckoning with her big burly brother, Victor McLaglen. The brawl between the two that climaxes the picture is one of the best ever staged and photographed.

Photographically, the whole production shows the same fine cinematic skill that marked "She Wore A Yellow Ribbon," which won an "Oscar" for Hoch two years ago. He could easily repeat, come Academy Awards time, with this fine job of cinematography.

John Ford, who co-produced the picture with Merriam C. Cooper, directed.

BULLETIN BOARD

(Continued from Page 374)

acquiring additional Kinevox magnetic film recording equipment, a color film processing machine, and other laboratory apparatus.

•

GLEN KERSHNER, A.S.C., returned from Honolulu early last month where he gathered data for an additional chapter for his forthcoming book on the South Sea Islands.

•

WINTON HOCH, A.S.C., fresh from his triumphant assignment shooting "The Quiet Man" in Ireland, was given another foreign assignment—this time in Samoa. There he is currently shooting "Return To Paradise" in Technicolor for Aspen Pictures. Featured are Gary Cooper, Robert Haynes, and Barry Jones. Mark Robson is directing.

Night in day...

The best moonlight is the light of the noonday sun...

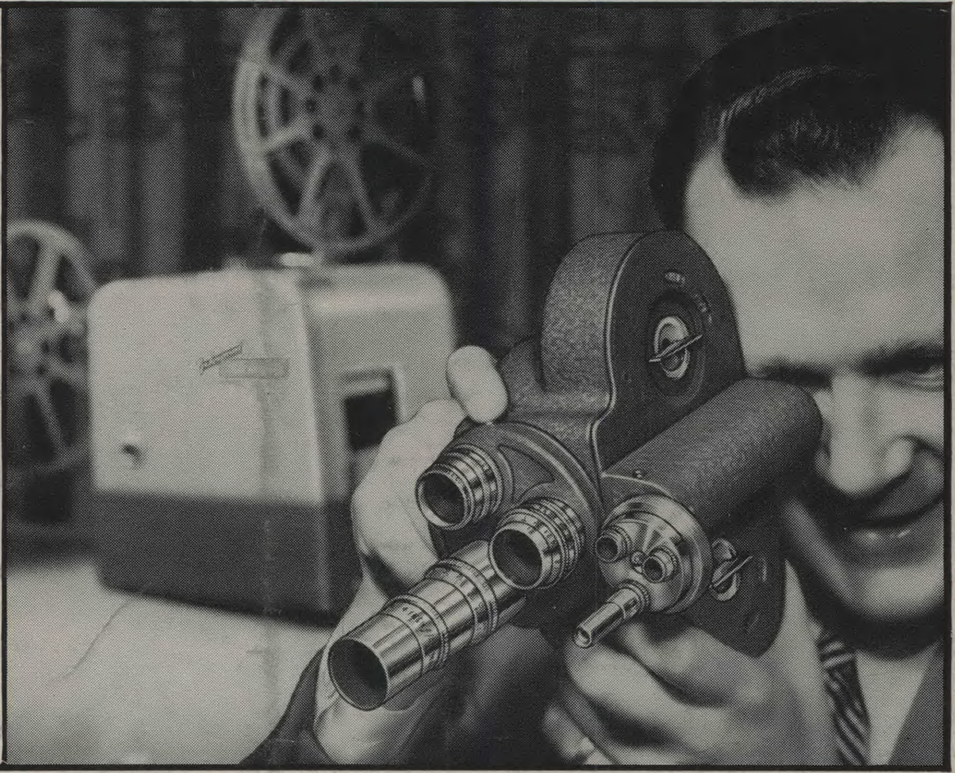
Obvious, of course, to an industry trained in modern cinematographic technics. Equally obvious is the need for infinite care in the choice of film and filters—in keying film and situation... in co-ordinating method and result desired in processing.

To help solve problems such as these, representatives of the Eastman Technical Service for Motion Picture Film are trained to advise—are ready and able to roll up their sleeves and lend a hand wherever necessary.

In maintaining this service, the Eastman Kodak Company has branches at strategic centers... invites inquiry on all phases of film use from all members of the industry. Address: Motion Picture Film Department, **Eastman Kodak Company,** Rochester 4, N. Y. *East Coast Division,* 342 Madison Avenue, New York 17, N. Y. *Midwest Division,* 137 North Wabash Avenue, Chicago 2, Illinois. *West Coast Division,* 6706 Santa Monica Blvd., Hollywood 38, California.

Now specially adapted for 16mm sound film!!

Perfect companion for your new Filmosound "202" ...latest Bell & Howell 70-DL movie camera



You're ready to make low-cost sound movies with a new Bell & Howell 70-DL!

This famous 16mm movie camera now takes single-perforated film . . . onto which the amazing magnetic sound track can be added. This track will last the life of the film, yet can be changed any time.

When you compare features, note the 100-foot film capacity, the 22-foot film run, the turret head that places three lenses at your fingertips, *seven* speeds including sound speed, parallax adjustment that corrects from infinity down to 3 feet, and the *positive* type viewfinder that lets you see what you take. Remember, too, every 70-DL is guaranteed for life.

With 1-inch f/1.9 lens only, $365.50. For further information, see your Bell & Howell dealer. And be sure to ask about the new Filmosound 202 recording projector.

And here's a suggestion! Why not have a demonstration of the Filmosound 202 using your own sound film. In this way, you can prove to yourself the worlds of exciting possibilities that exist in making your own sound movies.

You buy for life when you buy **Bell & Howell**

FREE SOUNDSTRIPE* of your first 100 feet of single-perforated film — that's what you get when you buy a new 70-DL . . . or have your present model 70 adapted. This is a special limited-time offer made by Bell & Howell to acquaint you with this wonderful new way to make sound movies.

Good news for present owners of B&H 70's

If you already own a Bell & Howell 70 camera, you can have it adapted to take single-perforated film as well as regular double-perforated film. This brings your camera right up-to-the-minute in usefulness. This is a factory conversion which you can arrange for through your Bell & Howell dealer for just $15.95. Same "free" SOUNDSTRIPE offer applies.

*SOUNDSTRIPE—the magnetic iron oxide stripe applied to single-perforated 16mm movie film for magnetic sound recording.

Prices subject to change without notice.